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The Dental Digest

October 1930

Editor~

GEORGE WOOD CLAPP, D. D. S.

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THE DENTAL DIGEST

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OCTOBER, 1930

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CONTRIBUTED ARTICLES

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THE DENTAL DIGEST

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THE DENTAL DIGEST

VOLUME XXXVI

OCTOBER, 1930

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Resiliency and the Like In Its Effect On the Facet Angulations of Artificial Teeth

By ALFRED GYSI, D.D.S., Zurich, Switzerland
Professor of Prosthetic Dentistry, University of Zurich

When I was in New York in the summer of 1925, I heard much about the wonders of resiliency and the negative equivalent condyle path, and how these can be registered by the wax or compound check-bite method.

After my return to Zurich I set my assistant, Dr. Holzmann, at work to investigate the reliability of the check-bite method. The result was the proof that it is not possible to register the same condyle path reading twice on the articulator for the same patient by means of check-bites with wax or compound, and that the results between two registrations may vary as much as 50° , that is, they may be anything up to 25° above or 25° below the anatomical condyle path of the patient. And so it may happen that in cases where the reading is much below the anatomical path a negative equivalent condyle path on the articulator is the result. Sometimes the results are quite near the anatomical condyle path, therefore the variations mentioned above are given only to indicate the maximum errors that can be obtained.

In 1927 Hanau published a booklet against Dr. Holzmann's dissertation in which he attacks different parts of the contents, but the most important part

of it, the errors of $\pm 25^\circ$ obtained by check-bites, he does not disprove. He only wrote that these errors are caused by the use of shellac baseplates. This cause of error may be true when the baseplates are badly formed and improperly adapted, which was not the case in our experiments. The errors were just as great in our manikin, where we used no baseplates at all but adapted the check-bite material directly to an unyielding wooden mandible. This booklet of Hanau should be called simply a personal pamphlet, and it would be deplorable if all differences of opinion in all branches of science were to be settled in this way.

As the experiments of Dr. Holzmann proved that a negative equivalent condyle path on the articulator is sometimes the result of the errors inherent to the check-bite method with compound and not the effect of the resiliency and the like, I set my other assistant, Dr. Pfeiffer, at work to investigate the real amount of the resiliency and its effect on the facet angulation of the artificial teeth. The results of these investigations are given in the following pages.

In the literature about impression-taking, bite-taking, occlusion and

articulation the expression *compressibility of the soft tissues* often occurs. A gas, a liquid, a solid body can be compressed by great force so that its volume becomes smaller. This can be done easily with a gas, but for a liquid or solid body it is extremely difficult. Water, for example, can be compressed by the greatest amount of force only by 1/1,000,000 of its volume. Real compressibility therefore does not come in question in our masticatory apparatus, because about 80% of the tissues of the human body is water. Therefore what dentists call resiliency is not compressibility but is either plasticity (displaceability) or elasticity, which is a *change of form* without change of volume.

The mucous membrane covering the maxillary and mandibular arches can change its volume only when the blood in the blood-vessels is squeezed back into the bony structure or into the adjacent mucous membranes by a prolonged pressure. Engineers must know the resiliency of the materials with which or upon which they build. All substances are resilient, even those which we think of as hardest. Therefore all tissues of the human body have resiliency, but the quality differs in different tissues.

The importance of tissue-resiliency to the prosthetist depends on the relation of the tissues to his work.

a. The underlying bony structures are elastic, but the amount of elasticity under the ordinary masticatory pressure is too small to be considered. The compressibility and displaceability also are negligible.

b. In the temporomandibular articulation the cartilaginous covering of the

bone is so thin that its elasticity is negligible. It serves only to prevent friction.

c. The meniscus, which is the softest part of the joint, can change its form under a one-sided pressure. For example, under a pressure of 10 pounds it yields 1/100 mm.—equal to 1/2500 of an inch. Only half of the effect of this compression reaches the second molar, and no discernible amount of it reaches any other tooth.

d. The mucous membrane underlying the dentures is 80% water, by volume, and is practically incompressible. But by one-sided force it can be displaced, and this is the only characteristic that need interest the dentist. By a prolonged pressure the blood content can be diminished and thereby the volume of the mucous membrane is decreased while the pressure lasts.

Dr. Pfeiffer made a complicated apparatus by which he could measure directly the displaceability of flabby, medium and firm gums. For flabby gums in the anterior portion of the arch the result was as follows:

If only the area of the maxillary and mandibular six anterior teeth was covered by a vulcanite plate, hard biting would permit the jaws to approximate 4 mm. more closely than under zero pressure. This would correspond to a resiliency of 2 mm. of the maxillary and 2 mm. of the mandibular ridges. But if the area proper to full maxillary dentures was covered, the maxillary denture could be forced upward only 1/2 mm., even when the ridges were soft, because the further movement of the denture was then resisted by the hard palate. If the area proper to full mandibular dentures was covered, the man-

dibular denture could be forced downward a little more than the maxillary denture could be forced upward, because the bony support of the mandibular denture is not equal in width to that of the maxillary denture.

The mandibular denture covers a smaller area than does the maxillary denture, and less of the bony area on which it rests is horizontal, so that it cannot so well arrest displacement. The mucous membrane covering the bony support of the mandibular denture is very often much more even in thickness than that covering the bony support of the maxillary denture, and this prevents displacement of the soft tissues. This explains why, in patients capable of much displacement of the mucous tissues, check-bite registration may give another condyle-path reading from that by the extra-oral method.

Hanau has been writing that if the tissues in the front of the mouth are more resilient, the articulator should be set by means of a check-bite to what he calls an *equivalent condyle path*, which is less steep than the anatomical path. If the resiliency is greater in the posterior part of the mouth, the equivalent condyle path would be steeper than the anatomical path. In the following pages I will treat only the first-named conditions, because they are more frequent.

In the dental clinic of the University of Zurich 300 or 400 full dentures are made each year. Many of these patients have more or less flabby ridges. But in only a few such people has the computation of the equivalent sagittal condyle path by the indirect or geometrical method differed by as much as 15° from the registration of the anatomical

condyle path by the extra-oral method. In average flabby ridges the reduction is about 10° . In ordinary tissue, which makes up about 80% of the cases at the University of Zurich, no reduction is experienced.

From this it can be seen that only in patients with a relatively flat anatomical condyle (say $+10^\circ$, which is very rare) and only when the resiliency of the anterior tissues are sufficiently flabby to suggest an equivalent condyle path 15° less than the anatomical path, would a negative equivalent condyle path result. Only in such very rare cases can I imagine that a negative equivalent condyle path can occur.

Hanau's articulators can be arranged to negative equivalent condyle paths of from 0° to -30° , and I have been told that many of his followers have registered an equivalent negative condyle path of -10° to -30° in about 50% of all cases by using the check-bite method. Now, if because of the resiliency of very flabby tissues in the anterior part of the arches the maximum reduction of the anatomical path is 15° —and very few patients have condyle paths as flat as $+15^\circ$ —then an equivalent condyle path of only 0° would be possible. But for the very great majority of edentulous patients, who have anatomical condyle paths of from $+25^\circ$ to $+45^\circ$, a negative equivalent condyle path would never be possible. Therefore the great number of negative equivalent condyle paths which are registered by the followers of Hanau can be due only to the errors involved by the check-bite method with wax or compound in relation with biteplates.

This proves also that the check-bite method with wax or compound is un-

suitable for registering the equivalent condyle path. This can be done only by the geometrical method of my assistant, Dr. Pfeiffer, and by the check-bite method with plaster after Kanouse. The geometrical method is very difficult and therefore impractical. Also, the check-bite method with plaster is not well suited for the busy practitioner because it consumes much time.

Therefore I disregard in most cases the equivalent condyle path caused by the tissue resiliency. When the tissues in the anterior part are very flabby, I suggest the reduction by 15° of the anatomical condyle path as registered by the extra-oral face-bow method. In average flabby ridges it may be reduced by about 10° and in only slightly soft tissues about 5° .

Of course I am aware that this is not very exact and is only an arbitrary method, but it is entirely practical for the busy dentist, and it is much more exact than the check-bite method, which produces errors of $\pm 25^\circ$, whereas this arbitrary method can produce errors not greater than 10° at the utmost.

An error of 10° in the sagittal inclination of the condyle path is not important, since its effect on the second molars is hardly perceptible. This can be proved by the following experiments:

To discover the effect of an error of 10° , the teeth must be carefully set and extensively milled with carborundum powder to practically perfectly balanced articulation, and the condyle path should have an average of 30° . If the path is then varied 10° downward, the molars will begin to separate; if it is varied 10° upward, the

incisors will begin to separate during a protrusive occlusion. These errors are so slight that it is necessary to hold the articulator in protrusive or in lateral occlusion against a window, and only then is it possible to see where the error is by a small ray of light shining through between the tooth facets which are not in perfect contact. Generally on the working side no trace of error can be seen; only on the balancing side can the discrepancy be observed, if the articulator has not the slightest "give." If it has a slight play, no error can be seen. In the patient's mouth the error could not be seen, because it is so small that it will be wholly taken up by the slightest resiliency.

If a non-adjustable or average articulator which has an average anatomical condyle path of about 30° is used and the patient has a great resiliency (displaceability) of the flabby anterior tissues, then the condyle path would have to be reduced by 15° . This can be done in the average articulator by mounting the casts with bite rims not perfectly horizontal, but so that the molar region of the bite rims is on a higher level than the incisor region, or, in other words, the bite rims should form an angle backward and upward of about 15° with the horizontal plane. Of course this is an arbitrary method, which would need eventually some spot-grinding of the finished dentures if the patient's condyle path deviates more or less from a normal condyle path. But if the errors are not much greater than 10° , they will not be felt by the patient.

In cases where it is desired to make an allowance for very resilient tissues in the front of the mouth by the use

of an adaptable articulator, it would be better to register the condyle path by the extra-oral method and then reduce it 15° than to run the risk of the errors inseparable from the check-bite method.

Proof of the influence of the resiliency of the tissues upon the equivalent condyle path has been presented by Pfeiffer in his dissertation published in the *Swiss Dental Journal*. The geometrical constructions necessary to support the conclusions are very intricate and can be understood only by those who are masters of the subject. The practical value of the findings is given above, and in conclusion we can say that the resiliency and like effects have formerly been exaggerated far beyond their practical value.

A confirmation of this opinion I found after reading Hanau's *A Brief Outline of Articulator Technique*, which I received during the Minneapolis meeting in 1928. I cannot but feel that he has come somewhat to the same conclusion. In this new technic he advocates that the "central relation rest record" should be taken at zero pressure, and also the "protrusive relation rest record" at zero pressure! In this way it is of course not possible to register an equivalent condyle path under the influence of the "resiliency and like effect," but the real anatomical

pressure to adjust the articulator so as to compensate for the resiliency and like effect. This proves that he has also abandoned the check-bite method under pressure with the biteplates. He has now accepted in principle the Tench method of remounting in the articulator the vulcanized dentures with a new centric relation rest record for the final milling with carborundum paste. By this Tench check-bite method it is possible to get all the compensation for the "resiliency and like effect." In this stage of finishing the dentures it is also possible to readjust the anatomical condyle path to an equivalent condyle path, but the difference between the two cannot be great (5° to 15°). So I am glad to see that we finally agree in principle, and the few degrees in which we may still differ from each other are unimportant.

Another point in which Hanau has come nearer to my position is the Bennett movement. He no longer considers it advisable, on account of the difficulties and inaccuracies, to take special lateral check-bites in order to register this movement, because he finds that it is quite sufficient to determine this lateral condyle movement by the aid of the formula: sagittal or horizontal condyle path divided by 8 plus 12.

Let me analyze the results obtained by this mathematical formula.

Sagittal condyle path	$8^\circ \div 8 = 1$	$16^\circ \div 8 = 2$	$24^\circ \div 8 = 3$	$32^\circ \div 8 = 4$	$40^\circ \div 8 = 5$
corresponds to a	12	12	12	12	12
lateral condyle path					
(Bennett)	13°	14°	15°	16°	17°

condyle path is obtained in this way, as I get it with my extra-oral face-bow technic.

Only after the plates are vulcanized does Hanau finally take records under

From this one can see that Hanau always gets a lateral condyle path of about 15° , because the effect of $\pm 2^\circ$ Bennett cannot be demonstrated on the articulator or felt by the patient. It

needs a difference of at least 15° Bennett until a slight discrepancy can be proved on the last molar of the balancing side, whereas the anterior teeth and the whole working side are not influenced by such a difference. That Hanau's formula is not right is proved by the fact that the Bennett movement can vary from 0° up to 30°. As I have long advocated setting the articulator for all cases at about 15° Bennett, Hanau and I have also reached uniformity in teaching.

In Hanau's *Articulator Technique* I

am glad to see that he advocates reducing the sagittal inclination of the incisor guide table whenever the sagittal inclination of the condyle path is steeper than normal. I have taught this for several years.

Only in this way may the time be brought nearer when the articulator technic can be standardized and then the great confusion which exists today will belong to the past. By the good will of all concerned this great step forward should be possible.



Why Should Students Be Permitted to Fill Root Canals?

By FRED D. MILLER, D.D.S., Altoona, Pa.

Recently, at the Mid-Winter Clinic of the Baltimore City Dental Society, U. G. Rickert of the University of Michigan made the statement that there were only *two men in the world in whom he would have confidence enough or whom he would permit to fill the canals of a molar tooth for him.* He stated also that he does not fill canals of any teeth for his patients over 40 years of age, very few canals for patients between 30 and 40 years of age and then only after a careful history in regard to the patient's various susceptibilities to the rheumatic group lesions, and that the most canals he fills are for patients under 30 years of age.

Numerous authorities admit that for mechanical reasons alone the canals of many teeth cannot be filled.

The writer spent or, perhaps I should say, wasted about seven years, from 1912 to 1919, in a serious effort to fill the canals of pulpless teeth. He was an intimate friend of the late Meyer L. Rhein, of New York, at whose home and office he spent many hours in his company learning how to fill root canals, and he is submitting herewith some of the radiographic evidences of conscientious effort at scientific root-canal therapy. In the early days we believed in overfilling rather than falling short of the very apex of each canal.

These radiographs (Figs. 1-10) will serve to bring home the point that many well-filled teeth are the source of systemic infections. What about the ones

that students fill? I think they are "safer out," and I am fully aware of the fact that infections gain a foothold only where there is what Percy Howe calls a *lowered physiological threshold.*



Fig. 1
Showing the filling of four root canals in a second molar.

The writer has read numerous papers on the subject of ionic medication and scientific root-canal therapy, has given numerous clinics during that period and has learned from many sad experiences the futility of the operation. Many of



Fig. 2
A left maxillary second molar with diagnostic wires in the four canals, two in the mesiobuccal root. In preparing some teeth for a clinic in 1915 the writer opened eleven first molars and found four canals in seven of these teeth. He believes that a large percentage of first molars have four canals instead of three.

the teeth, most painstakingly filled, have since been extracted and their extraction has been followed by the clearing up of numerous systemic conditions from neuritis to the more serious heart protests. Yes, these very teeth that were so painstakingly filled!

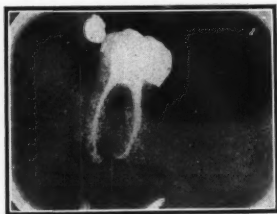


Fig. 3

These canals were filled in December, 1915. Fourteen hours were spent in trying to save this tooth by opening the canals to the apex and treating by the Rhein technic. The tooth remained "comfortable," but the patient developed neuritic pains in the right shoulder and arm, so the tooth was extracted on October 27, 1916. This was one of the writer's first experiences with a severe case of neuritis clearing up within three days after the extraction of a tooth which had been so painstakingly filled.

ALL PULPLESS TEETH A HEALTH HAZARD

I want to admit right here and now that after eighteen years' practice in dentistry I do not feel competent to fill the canal of any pulpless tooth, single or multi-rooted, and give the patient *any assurance* that it will not be a serious health hazard. Just what am I driving at? Simply this—what right has the faculty of any dental school anywhere to permit a student of dentistry to fill the root canals of any tooth for any patient? Why should such practice be permitted? Do students have to learn to fill root canals? Have they any right to jeopardize the future health

of any patient so that they may learn, after years of practice and God knows how many cripples, the misery and suffering and the hastening of numerous patients to early graves? It can't be done! Do faculties have any right to permit students to inoculate patients for experimental purposes? Would the medical profession permit their students to conduct bacteriological inoculation in human beings for experimental purposes, instead of using guinea-pigs and rabbits? I think they would not!

Some thinking dentist somewhere at some time said, "There is a grave doubt in the minds of a few thinking dentists as to whether or not dentistry, as it has been practiced, hasn't done more harm than good."

Sir William Hunter's denouncement of American dentistry appeared in the *London Lancet* in 1911 and was later published in the *Dental Cosmos*. At first this denouncement caused the American dentist to rise up in arms against Hunter, but it was soon realized that everything he said was true, and that there was no come-back. Charles

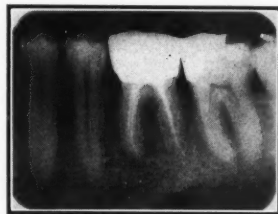


Fig. 4

Roots filled by the writer on September 22, 1919. The tooth was extracted on February 18, 1930, followed by a prompt clearing up of a mild heart protest in which there was a tachycardia, the patient's pulse promptly dropping to normal, from 86 to 72 within two weeks. We have had a great number of this type of case. Long before a patient has organic disease, the heart protests against infection.



Fig. 5



Fig. 6

Figs 5-6

Two instances of accidental fracture in young boys—in the writer's opinion, the only justifiable root-canal operation, if teeth and patient are periodically "checked up" in the mouths of "controlled patients."

The tooth illustrated in Fig. 5 was filled on February 9, 1920, and was extracted on June 10, 1929. This was another instance of a heart protest, and in a very young man, which cleared up promptly following removal of this tooth.

The root in Fig. 6 was filled when the boy was 12 years old, on August 23, 1917. It had been treated by the "cotton-exchange" method for five or six years and had a gold cap on it. The tooth is still in the boy's mouth, but will be extracted before another year, as he is reaching the age limit, and pulps of adjacent teeth are fully developed.

H. Mayo, one of the world's greatest surgeons, recently said: "The next great step in medical progress in preventive medicine should be made by the dentists. The question is, will they do it?"

Prohibiting students to fill root canals of teeth would be a great step.

If professors or demonstrators had to do this work, there would be very little of it done.

Remember, too, that clinic patients are not *controlled patients*; there is no *periodic radiographic check-up*. When they leave our dental-school clinics, which should be primarily dental health clinics, they should have a *clean bill of dental health*. I have yet to see in a



Fig. 7



Fig. 8

Figs. 7-8

Here are instances of a case of obscure neuralgia and neck pains, both of which cleared up following the removal of these "apparently healthy" teeth.

The tooth in Fig. 7 was filled by the writer on March 16, 1920, and was extracted on June 10, 1930.

The tooth in Fig. 8 was filled on February 21, 1922, and was extracted on May 23, 1930. The tooth was removed without fracture and had quite a granuloma adhering closely to the root, which does not show in the radiograph. The patient's pains in the neck and head have completely disappeared.

dental school a complete chain of aseptic technic in the conduct of root-canal operation.

Rosenow and Meisser, working in the Mayo Clinic for a number of years, used dogs in their experimental work—not patients, although they were available in legions. They worked under the most rigid aseptic conditions (on dogs), filling the canals of the mandibular cuspid teeth, some 800 cases. These canals were filled by all of the most approved scientific technics—the Rhein, the Callahan and the Howe silver reduction methods. These tooth roots were later resected and cultured. These cases were clean, sterile cases to start with, but all of these roots were found diseased after a period of eighteen months. That was the longest time that any one of them stayed sterile.

Does this mean anything? Has all this work been for naught? Does rigid asepsis mean anything? How soon is a pulpless tooth infected when the infection is introduced at the time of the operation? At once? Does this have any significance? Do students in dental-school clinics fill canals with this care? Where did they get the experience? Let them try it on the dog—but not on human beings!

If the chief function of dentistry is to conserve the natural teeth, they should certainly be conserved in *health*. The average root-canal operation probably takes one hour; some take two or three hours, some take fourteen hours. (I spent that long on the roots of one mandibular molar, which two years later was extracted and cleared up a bad case of neuritis.) Figure it out for yourself how many initial fissure cavities the

average dentist could fill in that time; these restorations will prevent the loss of the pulp in thousands of teeth.

If our dental schools have any duty to humanity, they certainly owe the charity patient a clean bill of dental health when he leaves the portals of their clinic. At best pulpless teeth are expensive luxuries. If a charity patient needs anything more than assured dental health, I do not know what it can be.

"GRAVE" DANGER

It should not be necessary to recall

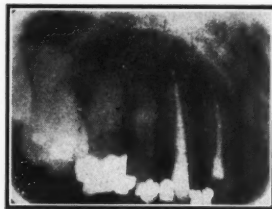


Fig. 9

These canals were filled by the writer, the cuspid on October 28, 1915, and the lateral on March 1, 1916. The patient was a chronic sufferer from arthritis and had some deformed joints and considerable pain. The teeth were extracted on March 31, 1921, and the patient has been free from pain ever since. She is now 68 years of age, has some deformed joints, but has been free from pain and markedly improved.

all of the scientific data that have been published in our dental and medical literature in the past decade upon the dangers of focal infection. The work of Rosenow, Billings, Meisser, Hayden, Hartzell and Price is known to all.

The question is not, are pulpless teeth health hazards? We know that most authorities agree that the only sure way to determine whether or not a pulpless tooth is infected is to extract it and

culture it. Oliver T. Osborne, of Yale University, says: "A dentist's decision may mean a long life or an early grave for his patient. A dentist's main problem really is not one of filling holes in

teeth or of restoring masticating surfaces or of adorning the oral anatomy of his patients, but is one of life and death. Dentistry must be preventive, that is, built for the future . . .

"Dentistry has now been exalted to the highest rank in preventive medicine, and it is for each member of the dental profession to decide whether or not he will live up to the new standard."

Recently a young man, 21 years of age, came into my office with a mandibular first molar that he had had "treated" fifteen times. We extracted it. He had twenty-two open cavities that had not been touched. These were opened and stopped up in two visits. I wonder where that dentist learned to "treat" teeth. In a dental school?

Should students be permitted to fill root canals? I think not!

1122 Twelfth Avenue



Fig. 10

These canals were filled by the writer on June 28, 1915. The patient was a chronic sufferer from arthritis, and we had hoped the filling of the canals would clear up the infection. The tooth was extracted in June, 1918, and the patient has been free from arthritis ever since these teeth were extracted (right molar x-ray lost; canals were all filled to apex à la Rhein). The patient is now 44 years of age, has no pulpless teeth, is in splendid health, and has had no other operations of any kind.



Clinical Laboratory Methods In Dentistry

By NATHANIEL FREEMAN, D.D.S., New York, N. Y.

Adjunct Dentist, Mount Sinai Hospital and Montefiore Hospital

In this series of articles we shall attempt to describe various diagnostic methods as aids both in prognosis and in treatment of several dental disorders. Most of the material is based on some lectures given as part of a course before various dental societies. A good deal is from the author's experience, and some from various authorities in their respective subjects, to whom due credit is given.

No single laboratory test can lead to an accurate diagnosis, but laboratory findings plus history and physical examination constitute a triad which can be worked out accurately and carefully.

Conditions of the teeth and mouth are quite often the primary cause of systemic disturbances the diagnosis of which can be made only by the dentist. Again, certain teeth and mouth conditions may be secondary to other causes, and, if these extraneous causes are ascertained, quicker and better results are obtainable in the local conditions.

A positive finding has positive diagnostic value.

A negative report is valuable as an item of elimination.

A few striking examples of what laboratory tests do in the routine of physical examinations are the detection of diabetes, nephritis, latent or unsuspected syphilis, anemia, low resistance, hypertension, glandular disturbance, atri of focal infections, etc.

Blood counts above 8,000 show the

presence of infection and the amount of personal resistance of the patient. A low leukocyte count (leukopenia) signifies a low resistance.

Estimation of coagulation time of the blood is important. The average clotting time is from three to four minutes. The slower the time, the more must it be considered that the patient is a bleeder or a hemophiliac.

A Wassermann test is important in all suspicious lesions.

Dark-field examinations may show the treponema pallidum, the causative organism of syphilis.

Vincent's infection may be diagnosed by smears.

Routine examinations of the urine will often reveal general systemic conditions.

At the present time much is being said about the relationship of physicians and dentists. Quite frequently dentists are at a loss to discuss their cases with their medical confrères in an intelligent manner. Many sheepishly consent to the removal of teeth merely upon the inclination of the individual physician. Unfortunately, in both our colleges and our clinics, too much stress is placed upon the mechanical aspect, so that our patient exists merely as an entity who needs various appliances, bridges or dentures. The physical side of the patient is neglected, with the result that failures often follow. A little care exercised in the beginning will often prevent days of anguish.

In examining a patient for the first time, do not be too anxious to insert a mouth mirror and determine how many cavities exist. Instead, study the patient's features, eyes, lips, neck, etc.

Eyes. Note color, conjunctiva for signs of inflammation, etc.

Pupils. Regularity, equality, mobility, keratitis, etc.

Mouth. Lips, rhagades, color, ulcers or tumors.

Tongue. Tremor, coating, color, ulcers or tumors.

Palate. Tumors, etc.

Neck. Palpate for lymph nodes, suspected Hodgkin's disease, tuberculosis, syphilis or malignancy.

DIAGNOSTIC SIGNS OF INFECTIOUS DISEASES IN THE ORAL CAVITY

Measles. Koplik's spots are noted on the mucous membrane of the cheeks and gums and are of diagnostic interest, as they appear before the rash.

Scarlet fever. Characteristic congested throat, strawberry tongue and occasionally a diphtheritic membrane.

Smallpox and chicken-pox. Vesicles are noted in various parts of the mouth.

Metal poisoning, such as *lead* and *bismuth*, produces inflammatory changes in the gums with the production of a black or bluish line along the gingival margins. *Mercury* causes a diffuse red and swollen mouth and often sloughing ulcers, together with an abominable fetor accompanied by salivation.

THE MICROSCOPE AND ITS USE

Inasmuch as the microscope is one of the indispensable aids in diagnosis, a word or two regarding its use will not be amiss.

There are two adjustments on the microscope, the *coarse* and the *fine*. The coarse is used in studying low-power work, while the fine is reserved for the higher magnification, as in bacteriological examinations.

There are usually three objectives, an *oil-immersion lens*, a *high-power lens* and a *low-power lens*. These can usually be identified by noting that the smallest diameter of lens always has the highest magnification; that is, the oil-immersion lens is the lens of smallest diameter and hence is of the highest power.

At the top of the tube is located the eyepiece. This also comes in various sizes.

The source of light can be either artificial or natural. We prefer an artificial light, using a frosted bulb of about 60 watts. The light is directed through the tube of the microscope by means of a mirror which is situated below the aperture of the stage. The mirror is flat on one side and concave on the other. When maximum illumination is desired, as in bacteriological work, the concave mirror is used. For all other purposes the flat or plane mirror is used.

There are several makes of microscopes and also other attachments which are used, but for further description the reader is advised to consult any of the works on microscopy.

EXAMINATION OF URINE

Briefly, the normal urine has the following characteristics:

Color. Pale yellow.

Reaction. Faintly acid (to litmus paper).

Specific gravity. 1.012 to 1.024.

Often in cases of erosion, not due to tooth-brushing, we find a high acidity, usually due to faulty metabolism.

For practical purposes a dentist should be able to test urine for the presence of sugar and albumin. The tests are exceedingly simple and require little equipment.

Albumin test. Fill a test-tube three-quarters full with urine, heat the upper part and add acetic acid 3%, about ten drops. If albumin is present, the urine will turn cloudy when heated, and this will be accentuated upon the addition of the acetic acid. Very often phosphates are thrown down, but the acetic acid will dissolve them immediately.

The presence of albumin is indicative of nephritis and also of improper elimination. It is due also to disturbances of circulation, fevers, toxic poisoning, etc.

Sugar test. Place a few c.c. of Benedict's solution* in a test-tube, heat this gradually until the solution boils, then add a little of the urine and heat again. If sugar is present, the solution, which is blue, will gradually turn to a rather brick-red color. If allowed to stand, a noticeable reddish precipitate will be seen..

* Benedict's solution, as follows:

Copper sulphate crystals..	17.3
Sodium citrate	173
Sodium carbonate crystals.	200
Distilled water	1000

We believe that every suspected case of periodontal infection should have a urinalysis so as to determine whether any systemic factor is the cause.

Very often we see cases in which there has been a recent extraction, and the involved tissues seem to be retarded in their healing. A urinalysis in such a case will often reveal the presence of sugar.

There are other tests which can be made, but we feel that the dentist should be interested in the sugar and albumin tests particularly.

A *microscopical examination* made of the urine to determine the presence of blood cells, casts, etc., is also of great diagnostic interest.

Casts are due to albuminous material which under various abnormal conditions has escaped from the blood-vessels in solution and has solidified or coagulated, especially in the lumina of the tubules, owing to the abstraction of water and the increased acidity, thus forming the more or less cylindrical or globular structures called casts. These may be homogeneous in structure or hyaline casts, or the albuminous material of which they are formed may be mingled with the products of degeneration and disintegration of epithelial cells, either from the glomeruli or from the tubules or with red blood cells or leukocytes or exfoliated epithelial cells.

5 East 57th Street.



Restoring Pleasing Expression With Artificial Dentures

By JAMES P. RUYL, D.D.S., New York, N. Y.

SEVENTH ARTICLE

MIGRATION OF THE TEETH AND ITS EFFECT ON APPEARANCE



Fig. 1

Miss F as she appeared at the age of eighteen. At this time there was a marked tendency toward migration of the maxillary anterior teeth.



Fig. 2

At some time during the following nine years the mandibular molars were lost, and this accelerated the migration of the maxillary teeth. At the age of twenty-seven the effect on the expression when the face was in repose was as shown here.



Fig. 3

The effect of the migration of the teeth upon the expression was the source of much unhappiness, and she smiled as seldom as possible. As she was of a jovial disposition, she had to laugh sometimes and then she looked like this.

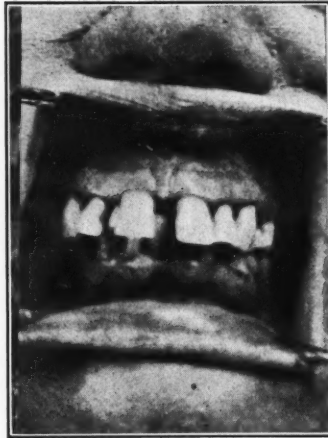


Fig. 4

The exact nature of the migration and the relation of the mandibular incisors with the maxillary teeth are here shown in detail.

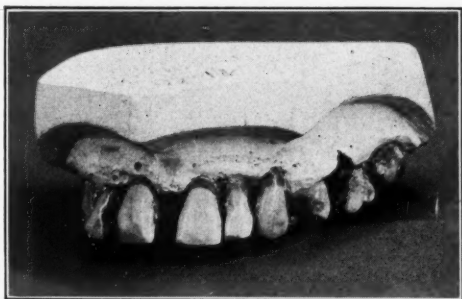


Fig. 5

It is not of prime importance to the prosthetist whether the unhealthy condition shown by this case caused the migration of teeth or the migration caused the gum conditions. There was much alveolar resorption, the teeth were very loose and, in any event, no naturally good-looking girl could go through life looking as this one did.

The maxillary teeth were all removed and remounted in an impression previously taken to await them. Here is what they looked like.



Fig. 6

The characteristics of the natural dentition, as shown in Fig. 1, were studied through a magnifying glass until every detail of arrangement was known. The set-up here shown is almost an exact duplicate of the natural dentition at the age of eighteen.



Fig. 7

The upper lip, when in repose, now closes naturally and easily over the teeth, the facial proportions are maintained and the appearance of premature age, which would soon have occurred, has been postponed.

285 Madison Avenue.



[ANALGESIA]

The administration of nitrous oxid oxygen in analgesic proportions is a very simple procedure and exceedingly safe, because nitrous oxid in itself is the least harmful and the safest anesthetic known to the profession. It has no deleterious effects upon the heart and circulating system, upon the lungs or upon the respiratory system. It does not affect the liver, kidney or any other organ—and this in anesthetic proportions, mind you. In analgesia we are two full stages away from danger: the second, excitement, and the third, anesthetic stage; the fourth stage, or asphyxial stage, being the danger stage.

—SELDIN.

Dental Fear and Its Treatment

By A. PORTER S. SWEET, D.D.S., Hornell, N. Y.

The contents of this article will be divided into two parts: (1) a resumé of the psychology of fear, as covered in a previous article ¹, with the symptoms and reactions encountered in dental practice; and (2) the methods of treatment of these interesting and often difficult cases.

KINDS OF FEAR

The dentist comes in contact with several kinds of fear, and it may be well to mention them briefly. Algophobia or the fear of pain is by far the most common cause of dental fear. Besides this the dentist must at times contend with ergasiophobia (the fear of any surgical operation), belonephobia (the fear of the needle or sharp instrument), and hemophobia (the fear of blood).

The best outline of the psychology of fear is from Woodworth ²: "If the organism receives a stimulus that arouses fear or anger, again the adrenal secretion is increased. All the organs soon get a strong dose of adrenalin, and some of them are much affected by it. It hastens and strengthens the heart-beat, it causes the big veins to squeeze the blood rapidly into the heart and thus quickens the circulation. It stimulates the liver to release stored sugar into the blood, and thus the muscles are abundantly supplied with fuel, as well as with oxygen from the increased circulation (and respiration), and are able to work with great energy and with a minimum of fatigue. While the adrenal

hormone is thus stimulating the external muscles, it is having the opposite effect on the digestive organs. These inhibitory effects are started by the sympathetic nerves to the stomach, but are continued by the action of the adrenalin circulating through the stomach walls. The adrenal glands, in fact, are an adjunct to the sympathetic nerves. The gland itself is aroused by one of the sympathetic nerves, and its hormone affects the same organs, in the same ways, as the sympathetic nerves. Both erect the hairs, dilate the pupil, both produce sweating, both constrict the large veins and small arteries and thus raise the blood-pressure."

These dental fears would be nonexistent if every dentist would make it a point to practice painless dentistry or if every patient would refrain from telling of any hurt, real or fancied, that he has experienced from dental operations. However, many physicians and dentists become callous, not caring whether or not they hurt a patient, and some people seem to enjoy telling of the pain they have experienced, thinking that by so doing they become brave in the eyes of other people. The unfortunate thing is that many times these people do their bragging before children and nervous adults and in this way are very frequently the cause of various dental fears.

SYMPTOMS OF DENTAL FEAR

The symptoms of dental fear are the mild symptoms of fear and terror in

general. Below is an outline of some of the symptoms that may be noticed:

A. External Symptoms.

1. Hastens the heart-beat. ^{2, 3, 4}
2. Increases respiration. ^{3, 4, 5}
3. Constricts the external muscles. ⁶
4. Causes a cold sweat. ^{5, 6, 7}

B. Internal Symptoms.

1. Increases the blood supply to the heart, lungs, brain and skeletal muscles. ⁸
2. Constricts the blood-vessels. ^{2, 9}
 - a. Paleness. ^{3, 5, 6, 9}
 - b. Shortens clotting time. ¹⁰
 - c. Increases blood-pressure. ⁹
3. Inhibits digestive process. ^{2, 5, 9, 11}
4. Lowers tone of visceral muscles.
 - a. Lessens control over excretions. ^{6, 12, 13}
 - b. Vomiting. ^{5, 14}
5. Stops flow of saliva. ^{6, 7, 9, 13, 15, 16, 17}

For diagnostic purposes the outline just given is by far too complicated. For this reason, only the following are taken into consideration: saliva flow, excitability, pulse, pupil dilation and perspiration. This does not mean that no attention is paid to the other symptoms. Any that are apparent are noted and recorded.

Perhaps of more importance than the symptoms are the reactions of the individual. These reactions are an index to the intensity of the fear. They are: cowering, clinging, shrinking, dodging, huddling, getting under cover and running away. According to McDougall ¹⁸, "the sudden stopping of heart-beat and respiration, and the paralysis of movement in which it (fear) sometimes finds expression, are due to the impulse of concealment; the hurried respiration

and pulse, and the frantic bodily efforts, by which it is more commonly expressed, are due to the impulse of flight." In cases where the fear is very slight there may be no reaction at all, while in intense cases, bordering on terror, all of them may be noticeable, ending up with the patient actually running away. Cowering, clinging and getting under cover are reactions usually confined to children. Dodging, shrinking, huddling and running away may be indulged in by both children and adults. The adult will usually apologize for his lack of control, but will be unable to overcome it nevertheless. Angell ¹⁹ mentions this lack of control: "So long as the fear was in the ascendancy, my mental activity was of the most futile, inefficient character." The adult reaction of running away at times consists of staying away from the dentist or making and breaking appointments.

TREATMENT OF FEAR

In the treatment of fear there are two things that it is absolutely necessary for the dentist to have in his make-up. If he lacks either, his treatment not only will be apt to be unsuccessful but will many times be worse than no treatment, for it will aggravate the condition. These two things are (1) a sympathetic understanding of the attitude of the patient toward the dentist and dentistry, and (2) a world of patience. Besides there must be also a keen desire to help the patient out of his difficulty. The dentist or physician is all too apt to grow careless in his treatment of people, coming to look upon them as if they were inanimate and had no feelings. There is no animal in the world, human or otherwise, that enjoys the

experience of pain. It therefore behooves us always to practice painless dentistry. If we do, our patients not only will return to us but will bring many others with them who have been letting their teeth go because of their fear of dental pain.

The treatment of dental fear is not especially difficult. It consists in overcoming the idea of fear that is present in the mind of the patient. Marsden ²⁰ says: "Fear is but the product of our own thoughts." To overcome this idea of fear, it is best to use three different methods of treatment. First, there is the matter of environment. It goes without saying that the reception room should be quiet and restful, without the least suggestion of dentistry or anything that could possibly inspire fear. Exciting and disturbing colors such as red and maroon should never be in evidence in a dental office. Neither should the depressing colors such as dark green, deep blue or dark brown be used. It is also very important that the pictures and magazines in the office should not depict stress or strife in even a remote degree. Still in some offices one will find pictures of battles, gladiators, etc. How can a nervous patient relax and lose his fear when he has to look at such pictures? Environment in the operating room is just as important. Too much white should be avoided, for it reminds the timid of the hospital operating room and makes it much harder to handle them.

The second method of treatment is by the use of medicaments. The routine use of aromatic spirits of ammonia, given internally, is very helpful. It creates the impression with the patient that you are doing everything possible

for him and, besides, it is a very good shock preventive. It is also good practice to give a mild hypnotic, and there are several of these hypnotic tablets on the market that are safe and very efficient. They will relax the patient and quiet him enough to listen to reason. It is best to give the hypnotic tablet when the patient first arrives at the office or even have him take it at home as he is leaving for the office, if the elapsed time will not be too long. With this treatment he will be in a more receptive state, and the real treatment will be easier and of more benefit. The medicinal treatment that really does the most good is the use of anesthetics, either local or general. In using novocain it is well to apply to the mucous membrane a pledget of cotton saturated with an anesthetic for a few seconds before the injection. The great value of medicaments in the treatment of fear lies in the fact that with them we are able to operate without pain and thus we can prevent fear as well as overcome it.

The third and by far the most effective method of treatment is mental. Fear is a product of the mind and can be overcome only by mental treatment. In practically every case a few sympathetic questions will bring out the fact that the cause of the fear is some very unpleasant experience in the past at the hands of either a physician or a dentist. McDougall ²¹ says of fear: "Fear, whether its impulse be to flight or concealment, is characterized by the fact that its excitement, more than that of any other instinct, tends to bring to an end at once all other mental activity, riveting its attention upon its object to the exclusion of all others Fear, once aroused, haunts the mind; it comes

back alike in dreams and in waking life, bringing with it memories of the terrifying impression." Freud ²² says: "Wherever there is fear, there must be a cause for it." In case the patient does not remember the experience that is the cause of his fear, it can be taken for granted that it has been forgotten by the conscious mind, but that the memory of the experience is still retained by the subconscious. In cases where you can put your finger on the actual experience that has caused the fear, the treatment is easier and the results are more apt to be entirely successful. This past experience must be attacked directly; either the present operation must be shown to be entirely different in character or the methods to be used will be different, more modern and absolutely free from pain.

Educational efforts with the patients pay by far the best dividends in overcoming fear. Bain ²³ is the authority for the following statements: "The most characteristic feature in the situation of terror is Uncertainty, Ignorance, Darkness. But the great specific against terror in general is *Knowledge*. Superior knowledge will undoubtedly awaken us to dangers concealed from the ignorant. In order that we may confront all dangers calmly, this is a legitimate awakening. The destroyers of our happiness are the apprehensions of distempered fancy, superstitions and vague errors. By long consent *Knowledge is Power*; still more emphatically *Knowledge is Composure*."

Fear, then, is ignorance, and a simple, easily understood description of the manner in which the operation is to be performed will often work wonders. But before any explanation is attempted it is well to determine the intelligence

quotient of the patient. This has been covered in a previous article ²⁴, but will be reviewed briefly. Patients are rated roughly as to average, above the average and below the average in intelligence. When we have decided whether the patient is above or below the average, it is much easier to determine the character of the educational explanation to be used. One way to explain is to liken the nerves to a telephone system; even the children understand the telephone. Explain that when we cut or hurt ourselves, the nerves (wires) telephone the message to the brain (central) and then we realize that we have been hurt. Explain then that when a local anesthetic is used it works by disconnecting the wires, making it impossible for the nerves to telephone their message to the brain, and so the individual cannot possibly be hurt. In using a general anesthetic central is put to sleep and so there can be no pain. If a person is older, more intelligent and interested, a brief, non-technical description of the anatomy of the nerves and of block anesthesia will impress him and give him a better understanding of what you intend to do. These educational methods are merely suggestions. The dentist can many times think of methods better suited to the individual case. Educational efforts should not be cut and dried. They must be adapted to the individual being dealt with, and each timid and fearful person should be studied and the method of approach used that seems the most likely to produce results.

If the patient is old enough to have the necessary will-power, a great deal can be accomplished by inducing him to suppress his fear. By appealing to

their pride many may be induced to control themselves and let the operator proceed. Quoting Bain ²⁵ again: "The opposite of fear is Composure or Coolness in the presence of danger. It is not insensibility nor indifference to evil, but a measured estimate of the danger, and a corresponding exertion to meet or surmount it. Power of Will—in other words, the strength of the motives of self-possession—may check the beginnings of fear. This control is the beginning of habits of composure. It may work on the moving organs, which lend themselves to the manifestation and development of the state; it may work still better on the course of the thoughts, which are apt to be unmanageable under an attack of fear." With children there is not so much opportunity to use this method. However, there are times when a judicious word or two, comparing their actions with some playmate's, will do a lot of good. If, after the patient has been induced to suppress his fear, the operation is then performed in a painless manner, there will seldom be a recurrence of the fear.

Time alone will cure some cases of fear. When other methods fail and the dental operation may be safely postponed, it is best to let the patient recover somewhat from his previous unpleasant experience, especially if it has been recent. Time is a great healer, and even children will forget, to a certain extent, painful experiences. Woodworth ²⁶ states: "In later childhood, adolescence and early adult life, many fears are outgrown, overcome or more or less completely suppressed. Some of this change is the result of a still better understanding of what is going on." If, after a sufficient time has elapsed

the patient is handled in a careful sympathetic manner, without pain, the necessary work can usually be accomplished with a minimum of trouble. Walsh ²⁷ says: "It would be best, first of all, were we to avoid needless fear. Secondly, since the more violent the emotion the more profound the responses, if we must fear, then let us fear mildly. Thirdly, since prolonged emotion causes prolonged reactions, instead of maintaining fear, especially because of the physical changes, let us restore tranquillity quickly, summoning to our aid thoughts which antagonize fear."

OUTLINE OF METHODS OF TREATMENT

In conclusion, it may be well to outline again the various methods of treatment of dental fear:

1. Environment.
 - a. Reception room.
 - b. Operating room.
2. Medicinal.
 - a. Ammonia.
 - b. Hypnotics.
 - c. Anesthetics.
3. Mental.
 - a. Education.
 - b. Suppression.
 - c. Time.

To some this outline of treatment will seem very incomplete, and in a way it is. It merely suggests and leaves the rest up to the individual dentist. This is as it should be. Each dentist has a different personality, and in treating these cases it is his duty to study the reactions of his patients to his personality. After so doing he can suppress the part that seems to annoy and irritate the timid and fearful and build up

and strengthen the characteristics that inspire confidence. We are all of us what we make ourselves, and with a little effort we can make our personalities into just what is required to make us most useful to our patients. In doing so we will find it thrilling indeed to see them respond more and more to our efforts.

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A Prosthetic Restoration

By OSCAR MAGGI, D.D.S., Santiago de Cuba

This case was that of a patient, 51 years of age, who had been wearing dentures made by ordinary methods, and for whom I constructed dentures according to the Gysi technic.

The maxillary arch presented a great deal of resorption of the alveolar ridge in the anterior region, indicating that the anterior teeth had been missing for many years. The lateral portions of the

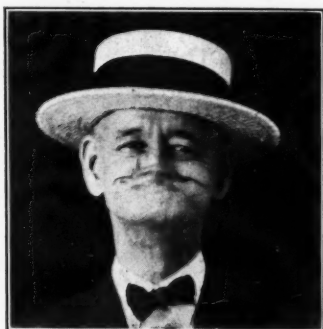


Fig. 1

Patient without dentures, showing the elasticity of the ligaments of the temporomandibular joint.

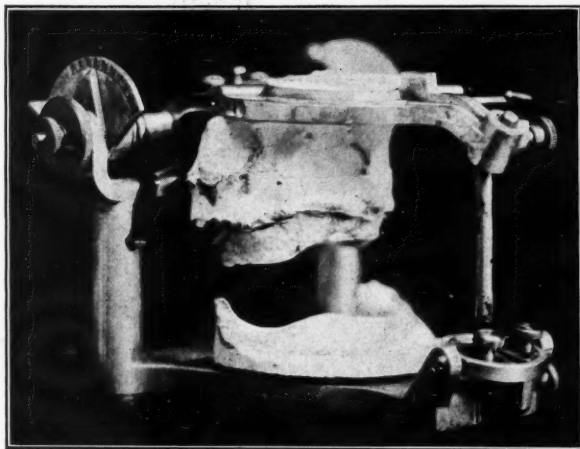


Fig. 2

The case set up on the articulator, showing the marked protrusion of the mandible.

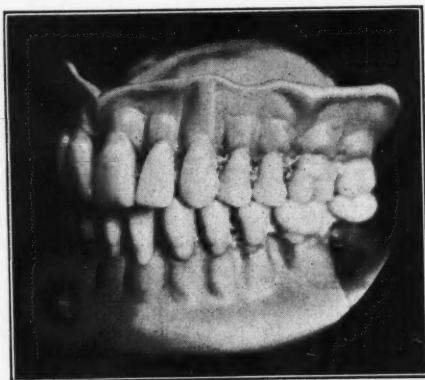


Fig. 3
The finished dentures.

ridge presented soft tissue of uneven density. There was a false insertion of the buccinator muscle and a small torus palatinus in the middle of the raphé.

In the mandibular arch the alveolar ridge had almost entirely disappeared, probably due to the continual trauma of improperly constructed dentures. The mucous membrane appeared soft in some parts.

A surgical operation was necessary to correct the false insertion of the buccinator. The impression was taken with modeling compound, corrected and trimmed with a knife, and postdammed.

The articulation of this case, in spite of the marked protrusion of the mandible and the distension of the ligaments of the temporomandibular articulation, which permitted the patient to perform

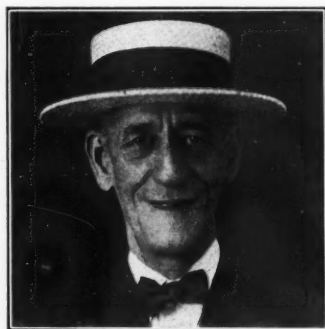


Fig. 4
Front view and profile of the patient with the dentures in place.

the gymnastics that may be seen in the illustrations, offered no particular difficulty. The mandibular teeth could be set on the ridge, thus favoring balance in occlusion.

In other words, this case, apparently so difficult, was happily solved and the articulation could be made as in any

other case, simply by following point by point the Gysi technic.

So satisfactory was the result that the patient attended with us, the dentists of this city, a banquet in honor of Dr. Currea and was able to do full justice to the menu one hour after the dentures had been inserted, wherefore it might be said, as in Rome, "Facta, non verba."



[THE SPECIALIST]

It seems desirable first to have a background of several years, no one can say how many, of general practice and for men naturally to drift into the particular line of specialization for which they seem best adapted, not only because of inclination, but also because of their ability. Most men who start specializing in this way are successful. After, say, five years of general practice, every family dentist should have some idea of the thing he can do well and the thing he is, in all probability, best fitted to do. No dental specialist was ever handicapped by too much knowledge of general practice, but many a man who aspired to be a great specialist fell far short of what he might be, because of the lack of a broader understanding of the whole dental problem.

—McPHAIL.

Standard Procedure for Treatment of Dental Clinic Patients*

BY THE DENTAL SECTION OF THE ASSOCIATED OUT-PATIENT CLINICS
COMMITTEE OF THE NEW YORK TUBERCULOSIS AND HEALTH ASSOCIATION

Editor, *The Dental Digest*:

Standard Procedure for Treatment of Dental Clinic Patients, a copy of which we are enclosing, is the result of the experience of a professional committee in the supervision of dental clinic operation over a period of several years.

The committee prints this handbook so that the *Procedure* which has been found effective in obtaining good quality dentistry and efficient service for patients in clinics under its observation may be available to other groups. We shall appreciate your consideration of the *Procedure* and any suggestions for its improvement to facilitate higher standards in clinic operation.

Yours sincerely,

(Signed) CLARE TERWILLIGER

Executive Secretary

New York Tuberculosis and Health Association

INTRODUCTION

In 1926 the Dental Committee of the Committee on Dispensary Development of the City of New York in its *Tentative Standards for Dental Clinics* stated that:

Professional supervision is the regular contact of a consultant or supervising dentist or body of dentists with the dentists who are performing the actual work in the clinics. Professional supervision consists in assuming responsibility for the quality of the work turned out and in availability for consultation; but, more than that, it means a constructive interest in the work, which develops a stimulating morale.

In order to aid the profession to attain the Committee's ideal of professional supervision and insure an even quality of work, a routine was established to use in six clinics under the supervision of the Committee on Community Dental Service of the New York Tuberculosis and Health Association. This tentative procedure was used as a guide to the operators, both dentists and hygienists, for two years. At

the end of that time it was revised according to the suggestions of the operators and supervisors who had used it. Its purpose is not to tell the dentist how to practice dentistry, but to insure a uniformity of service.

To accomplish his best work, the dentist must have his patient in the chair long enough to do the necessary work calmly and thoughtfully. This cannot be done if there is a feeling that he is being hurried because there is a large group in the waiting room that must be seen. The patient does not come to the dental clinic to be seen, but to obtain a service which will be beneficial to his health.

The best operators, with the backing of the most experienced and conscientious supervision, will fail in the clinic if the administration does not function properly. The duty of the administration is to receive patients by appointment, keep the clinic clean, provide for the comfort of both patients and operators, provide the necessary instruments and supplies and take proper care of the records with the dentist's

* Published by the Committee on Community Dental Service, March, 1930.

notations to facilitate the work at the patient's next sitting. This service should be efficient and unobtrusive so that all the time, energy and thought of the operator may be concentrated on the technical procedures which he alone with his training can perform. This obviously leaves no place in the modern clinic for the person or persons whose chief interest is large numbers on a monthly report. The hurried operator accomplishes little and cannot be expected to do that little well.

It is the sincere hope of this Committee, which has worked out and tried this procedure, that patients who receive care in dental clinics will enjoy a greater degree of mouth health because of that experience.

DENTAL SECTION ASSOCIATED OUT-PATIENT CLINICS

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MAURICE WILLIAM, D.D.S.

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ROUTINE PROCEDURE FOR TREATMENT OF DENTAL CLINIC PATIENTS

FIRST SITTING (by dental hygienist).

I. ORAL PROPHYLAXIS.

1. Seat patient comfortably, adjusting back and headrest properly.
2. Adjust napkin and holder.
3. In view of the patient, scrub hands, using green soap and brush.

4. Put out fresh drinking cup and necessary instruments.
5. If there are prosthetic appliances, remove them, immerse in fresh chlorin solution or water.
6. Examine entire oral cavity and note oral hygiene.
7. Bathe teeth thoroughly with hydrogen peroxid and spray mouth with warm solution, twenty-five pounds pressure; note abnormality of form or color; note pathological conditions indicating inoperability and consult supervising dentist; proceed as instructed, using precautions when so advised. (Special procedure for contagious cases should be recommended by dentist.)
8. If patient has not cleaned teeth before presenting for treatment, supply with brush and allow him to brush thoroughly and rinse mouth before operation.
9. Apply disclosing solution, covering two or three teeth at a time, immediately before scaling. Scale, removing gross deposits, using approved method of instrumentation.
10. Apply disclosing solution, covering two or three teeth at a time. Scale, removing smallest nodules.
11. Spray thoroughly with mouthwash.
12. Apply disclosing solution, two or three teeth at a time, to be sure all deposit is removed.

13. Polish, using regular system for polishing: labiobuccal, lingual, distal, mesial, occlusal.
14. Use dental tape and cuttlefish strips for polishing approximal surfaces.
15. Polish teeth with rubber cup dipped in oxid of tin paste.
16. Massage gums with fresh cotton rolls.
17. Spray thoroughly with warm mouthwash.
18. Thoroughly clean and rinse prosthetic appliance—return to patient. Be sure that all fixed appliances receive the same attention as natural teeth.
19. Scrub hands, using green soap and brush.
20. Give education in dental health during procedure; after treatment encourage questions; teach diet and home care; demonstrate brushing technic. If literate, patient may be given printed matter to refresh his memory.
21. Give return appointment for oral prophylaxis or place patient's card in tickler system for recall.

II. GENERAL EXAMINATION AND CHARTING (using binocular loupes).

1. Enamel defects and caries.
2. Condition of gums.
3. Condition of restorations.
4. Missing teeth.
5. Abnormalities and irritations to tongue and soft tissues.

III. X-RAY.

1. All teeth under crowns, whether gold or porcelain.
2. All discolored teeth.
3. Suspected impacted teeth.
4. Spaces where teeth are missing.
5. Employ bite-wing films for detection of interproximal caries wherever the proximal surfaces are not plainly visible.

NOTE: *Before handling the films, scrub hands with green soap and brush in view of the patient. The tube and all parts of machine handled should be wiped with alcohol by the assistant. Alcohol will not harm varnish if oil is used at least once a week.*

* * * *

SECOND SITTING (by dentist only, using binocular loupes).

1. In view of the patient, scrub hands, using green soap and brush.
2. Chart x-ray findings.
3. Check up enamel defects and caries, condition of gums and restorations.
4. Check up devitalized teeth.
5. Note diagnosis and restorations indicated.
6. Give estimate of cost if charges are made.

THIRD SITTING AND SUBSEQUENT SITTINGS (to proceed in the following order).

1. In view of patient, scrub hands, using green soap and brush before each treatment.
2. Treat caries to arrest further decay.

3. Remove all irritants to tongue and soft tissue.
4. Extract unsavable teeth.
5. Treat pyorrhea.
6. Fill individual teeth.
7. Polish fillings at the sitting following their insertion, before any other operative work is started.
8. Restore lost teeth.
9. Check up home care; give final instructions and return date for prophylaxis if that has not been done by hygienist.

TECHNIC

I. TREATMENT OF CARIES TO ARREST FURTHER DECAY UNTIL EACH TOOTH CAN BE CARED FOR INDIVIDUALLY.

1. Superficial caries.
 - a. Remove bulk of decay.
 - b. Dry with alcohol and warm air.
 - c. Apply ammoniacal silver nitrate and oil of cloves.
 - d. Fill with baseplate gutta-percha.
2. Deep open caries.
 - a. Remove bulk of decay.
 - b. Dry with alcohol and warm air.
 - c. Apply ammoniacal silver nitrate and oil of cloves.
 - d. Fill with paste made up of:

Zinc oxid powder.

Eugenol or oil of cloves.

Snip of aristol.

(It is understood that baseplate gutta-percha should be inserted at the

next sitting, which must not be longer than one week or ten days.)

II. TREATMENT OF TEMPORARY TEETH.

1. Where possible, cut out fissures and fill with amalgam.
2. Otherwise apply ammoniacal silver nitrate and oil of cloves.
3. Fill cervical cavities with baseplate gutta-percha.

III. ANESTHETIC FOR EXTRACTION OF TEETH.

1. Novocain should be standard anesthetic.
2. Special cases should be referred for nitrous-oxid anesthesia.

IV. TREATMENT OF PYORRHEA.

1. Treatment should be confined to firm teeth with shallow pockets. (Teeth must be in good occlusion and not tipped.)
2. Scale thoroughly.
3. Instruct in use of toothbrush.
4. Where plates are to be made, the patient will be best served by the extraction of all pyorrhetic teeth.
5. Vincent's infection should be treated with 5% salvarsan base with glucose and sodium perborate mouthwash (even teaspoonful to one glass of water).

V. FILLING TEETH.

1. Temporary fillings.
 - a. Copper cement should be used in all except cervical cavities.
 - b. Baseplate gutta-percha

should be used in cervical cavities.

- c. Baseplate gutta-percha should also be used for sealing cavity preparation until permanent filling is inserted.
2. Silicate fillings.
 - a. To be used for filling approximal and cervical cavities in anterior teeth.
 - b. Rubber dam should be used wherever possible.
 - c. Fundamental principles of cavity preparation must be strictly observed.
 - d. Cavity lining or cement floor where indicated.
 - e. Polish fillings at sitting following insertion.
3. Amalgam fillings.
 - a. Use Harper method (practical demonstration to be given clinic operators).
 - b. Amalgam should not be mixed for more than one filling at a time, unless rubber dam has been applied and there are two cavities adjoining which can be filled at the same time.

VI. RESTORATIONS.

1. For restoring one, two or three teeth on same side.
 - a. Impressions to be taken with plaster.
 - b. Clasps to be made of round wire, gauge No. 15 to No. 17, according to needs of the case.
 - c. Teeth on vulcanite saddle

(occlusal rests where possible).

2. Partial upper or lower plates restoring teeth on both sides of jaw.
 - a. Connect by palatal or lingual bar whenever possible.
3. Full upper and lower plates.
 - a. Wax or compound impression to be sent to mechanic, who will prepare hard baseplate impression tray.
 - b. Postdam palatal part of tray with wax and take impression with plaster.

VII. PORCELAIN DOWEL CROWN.

1. Dependent upon decision by supervisor concerning root-canal therapy.
2. Use cast gold base dowel crown.

VIII. PORCELAIN JACKET CROWNS.

1. On recommendation of supervisor only.

IX. USE OF SHELL CROWNS.

1. Special cases only. (Where fixed bridge is removed and vital tooth would have to be devitalized, use shell crowns to which to attach removable bridge.)

X. ROOT-CANAL TREATMENT.

1. On recommendation of supervisor only.

ROOT-CANAL TECHNIC

I. VITAL CASES.

1. Have x-ray picture of case.
2. Anesthetize all cases with

block or infiltration anesthesia.

3. Prepare field. Sterilize all instruments, rubber-dam punch, holder, clamps, forceps, mouth mirrors, cotton pliers, scissors, pulp-chamber explorers, pulp-chamber excavators, broach-holder, assorted barb broaches, assorted pulp-canal files and pulp-canal pluggers. Have all materials ready: rubber dam, dental ligature, paper points, cotton rolls, cotton pellets, alcohol, iodine, sulphuric acid and bicarbonate of soda, sodium and potassium.
4. Spray or wash mouth with antiseptic solution.
5. Isolate with rubber dam the tooth to be operated upon and the adjoining tooth on each side.
6. Sterilize dam and teeth with iodine and wash off with alcohol.
7. Gain access and remove sufficient tooth substance at proper place to gain direct access to canal or canals, being careful not to destroy or mutilate the floor of the pulp-chamber. Remove all decay and foreign matter from the cavity. Remove the pulp from the canal with barbed broaches. (Measure length of canal on x-ray, marking or bending broach to prevent going through the apical foramina.) Mechanically cleanse and enlarge

canals for filling with the aid of very small amount of sodium and potassium followed by a 30% solution of sulphuric acid pumped into the canal with pulp-canal files, starting with No. 1 and increasing in size as needed. Neutralize with a saturated solution of bicarbonate of soda. When cleansing and enlarging are satisfactory and complete, dehydrate with alcohol and dry canals, using paper points. Place measuring wire in canal, and x-ray with wire in place to see that canal is open to the apex, and, if so, seal in thymol and alcohol dressing with oxyphosphate of zinc cement, and dismiss the patient. Fill canal at next sitting.

II. NON-VITAL OR PUTRESCENT CASES.

First Visit

1. Have x-ray picture of case.
2. Prepare field. Sterilize all instruments, rubber-dam punch, holder, clamps, forceps, mouth mirrors, cotton pliers, scissors, pulp-chamber explorers, broach-holder, assorted barb broaches, assorted pulp-canal files and pulp-canal pluggers. Have all materials ready: rubber dam, dental ligature, paper points, cotton rolls, cotton pellets, alcohol, iodine, sulphuric acid and bicarbonate of soda, sodium and potassium.

- sium, either cresol and formalin or thymol and alcohol.
3. Spray or wash mouth with antiseptic solution.
 4. Isolate with rubber dam the tooth to be operated upon and the adjoining tooth on each side.
 5. Sterilize dam and teeth with iodine and wash off with alcohol.
 6. Gain access, remove sufficient tooth substance at the proper place to gain direct access to canal or canals. Remove all decay and foreign matter from the cavity and pulp-chamber opening into the canals, being careful not to mutilate the floor of the pulp-chamber. Remove contents from root canal about two-thirds distance to apex, being careful not to force any of the contents of the canal through the foramina. Use sodium and potassium (very small quantity). Flush very gently with tepid water and dry with paper points.
 7. Moisten tip of paper point with cresol and formalin or thymol and alcohol; place same in canal without pressure; place pellet of sterile cotton over this, seal with oxyphosphate of cement and dismiss patient until next visit.

Second Visit

Procedure same as first visit. Have x-ray picture at hand. Prepare field. Sterilize all

instruments; have all material ready; spray or wash mouth with antiseptic solution; isolate teeth with rubber dam; sterilize the teeth with iodine and wash off with alcohol; remove temporary filling and dressing from tooth. Cleanse the apical third of the canal or canals, being careful not to force foreign substance through the foramina. Use sodium and potassium followed by a 30% solution of sulphuric acid, pumping it into canals with pulp-canal files, starting with No. 1 and increasing in size as needed until cleansing and enlarging are satisfactory and complete. Neutralize with saturated solution of bicarbonate of soda and dry. Place measuring wire in canal and take x-ray picture with wire in place to determine whether canal is open to the apex. If access is satisfactory, the case is ready for ionization. (Case can be ionized and root canals filled at this sitting, or a dressing can be sealed in and the patient dismissed. Next appointment should be within three days.) For ionization, or electrolytic medication, use as electrolytes either Lugol's Solution (iodine 5 parts, iodide of potassium 10 parts, water 100 parts by weight) or zinc chloride 5%. For Lugol's

Solution, place negative electrode in tooth; for zinc chlorid, use positive electrode. Use one milliamperere for 15 minutes.

III. ROOT-CANAL FILLING.

When the cleansing and enlarging are satisfactory and complete, canals are sterilized by ionization and are ready to fill.

The filling technic is as follows:

Select gutta-percha points the size and length of the canal, obtaining length from wire measurement and x-ray picture. Flood the pulp-chamber and canal with Callahan's chloroform resin solution. With a point smaller than the one selected,

start into the canal, using a pumping motion and being sure to go to the apex but not through. (The chloroform resin solution will dissolve the point, forming a paste of chloro-percha which will adhere to the canal wall. It may be necessary to use two or more points, each time flooding the pulp-chamber with the solution.) Now take one of the selected points and work it down to the apex and condense well with pulp-canal pluggers. The tooth should now be x-rayed to see if the canal is filled satisfactorily; the canal filling will have to be re-condensed if not carried to the apex.



The Mortality of First Permanent Molars

By THADDEUS P. HYATT, D.D.S., F.A.C.D., New York, N. Y.

Dental Director, Metropolitan Life Insurance Company

The higher the mortality in any disease, the greater the need for some preventive measures. There is no room for arguments, no necessity of bringing forth scientific facts to prove the logic, the common sense of this statement. The greater the mortality, the greater the need to provide, or to invent if necessary, some preventive measures which will reduce this mortality. We should not wait until there is discovered a process which will entirely abolish the mortality. In this finite world, with our finite abilities, it will be hard, if not impossible, to obtain or devise anything that is absolute. If we can reduce the mortality by 30%, 20%, or even by 10%, is it not our duty to do so?

These thoughts occur to me as I study the mortality of the first permanent molars in a group of 12,753 persons, male and female, of all ages and from all walks of life. This table teaches us a terrible lesson.

PERCENTAGE OF FIRST PERMANENT
MOLARS LOST IN 12,753 PERSONS OF
ALL AGES

Age	Percentage Lost
16-20	36%
20-25	41%
25-30	48%
30-35	56%
35-40	61%
40-45	61%
Over 45	75%

We have become so hardened to this

state of affairs, so accustomed to the loss of these teeth and yet so confident in our mechanical skill and ability to replace these missing molars that we live in blissful ignorance of the stigma and the blot which is on our shield. In fact, we are guilty of some considerable conceit and take pride in the knowledge that around the world have spread the fame and renown of the digital dexterity and the mechanical ingenuity of American dentistry. We should pause and once more read this table.

Why should we be proud when we learn that 36% of all first permanent molars are lost before the age of twenty? Of what practical value are our digital skill and mechanical ingenuity when we cannot save 36% of these molars before the age of manhood? We know that these molars are the most valuable of all the teeth and yet we do not save them.

Perhaps many of my readers may not realize that the balance of this table is a natural and logical sequence to the first figures. Because of our inability to save 36% of first permanent molars before the age of twenty it is quite natural that the loss of these molars should increase year by year until we find that over seventy-five out of every hundred are lost by the time people reach the age of forty-five or over.

What an appalling situation! Yet it is so common that it does not bother any of us. We blithely go forward and

crowd around a wonderfully interesting clinic on how to fill root canals. A clinic on how to make full maxillary and mandibular dentures with teeth having cups instead of cusps on the occlusal surfaces holds 300 dentists entranced for several hours. We make porcelain jacket crowns and bridges that will move and those that should not move, while day by day exodontists are successfully removing teeth which we have failed to save. Our root-canal fillings, x-rayed and tested and plugged to their apical ends, are thrown to the waste. Our artistic, indirectly made M.O.D. gold inlays are carefully saved

and go to swell the bank account of the extractors. Bridges stay only as long as periodontal tissues will hold their abutments in place. Are these the accomplishments we should take pride in?

Some poets claim that love is blind. Be that as it may, no greater love has any man for his profession than he who, seeing its failures, tries to aid his professional brethren to attain its ideal. Today the ideal of our profession is not only to save the teeth but to protect non-carious teeth against decay of any kind.

1 Madison Avenue.



[THE PEDIADONTIST]

The progressive children's dentist must know diagnosis and the new discoveries in blood chemistry and endocrinology. He must know growth and development, must know developing malocclusion and how to prevent it, and, finally, he must know operative dentistry. Does any other field of dentistry have such possibilities, such scope of action; and does any other branch of preventive medicine promise such hope of accomplishment? The duty, then, of the one serving children in dentistry is not only to advance knowledge in all subjects relating to the growth and health of the child but also to see that such knowledge is applied by the gradual education of the individual and, thereby, of the masses.

—HOGEBROOM.

Some Observations Relative to the Gothic Arch

By HARRY J. HORNER, D.D.S., Pittsburgh, Pa.

My experience with the Gothic arch in registering central occlusion for the past eleven years in more than five hundred full denture cases has been so uniformly satisfactory that a statement in defense of its use is, so far as I am concerned, quite unnecessary. At a recent meeting a man prominent in full denture work condemned the use of this technic because of the fact that the arch can be registered in different positions by the incisor path register on the recording plate. He added that he had proved the fallacy of this method by taking some registrations in his own mouth, in which most of his own teeth still remain.

Fearing that others whose experience has not been so extensive as my own may be adversely influenced by such statements, I should like to present one or two facts that may make the whole matter clear to them.

While it is true that the arch can be registered in different positions on the recording plate, these different positions of the arch are controlled entirely by the degree of opening as established by the height of the bite rims, and the arches will be of identical character. If the bite rims are of proper height, the arch will be recorded in the right position for the case. If the bite rims are too high, the arch will be too far forward. If the bite rims are too low, the arch will be recorded too far back. But the Gothic character will remain and the value of the point of the arch for determining centric relation for that height of bite will be unchanged.

It seems most unfair to condemn a technic when the man who condemned it does not indicate that he has a real understanding of it, and the evidence does not show that he has properly applied it.

Shall we condemn an impression technic because a man cannot take two impressions of the same mouth which are interchangeable?

Will any swaged or metal denture base fit equally well on two different models of the same mouth which have been made from two different impressions made by the same man?

Can any operator prepare two cavities in any two teeth and make inlays for these cavities which would be interchangeable?

These comparisons could include practically the whole field of dentistry, but no one would think of condemning all technic because it has not been standardized into interchangeability.

By following the technic for impression-taking given to us by Tench, by locating the occlusal plane in its approximate position and securing the proper vertical position of the mandible by the desired height of the bite rims, no difficulty will be experienced in recording the Gothic arch in the position in which the teeth should be made, and in which they will be worn most efficiently by the patient.

The fact that teeth do not come into exact central occlusion after they are vulcanized and polished proves nothing. So many inaccuracies can come into the work in the laboratory that a recheck

of central occlusion is necessary, no matter what technic is used for central-occlusion registration.

If a more scientific method can be discovered that will more accurately secure correct central occlusion, it will be most welcome, but for any one to try to throw into the discard the combined experiences of many careful, conscientious operators who for years have proved the accuracy of the Gothic-

arch technic for registering central occlusion, because he failed in his own mouth in one case to register what he thought was a correct central occlusion, is indeed pathetic and calls for our sympathy.

Destructive criticism with a constructive alternative is fine; destructive criticism with no remedy is deplorable.

622 Jenkins Arcade.



[TRAUMATIC OCCLUSION]

Very commonly we find patients complaining of a sensitiveness to heat and cold in teeth which have no caries or very shallow cavities only, and which have little or no abrasion. Here the exclusion of infection through caries is simple, and the relief which is invariably afforded by relieving the occlusion completes the diagnosis. Occasionally the effect of traumatic occlusion is not recognized in time, and the pulp loses its vitality. Such cases are apt to show marked periapical disturbance in the roentgenogram, this being taken as evidence that the pulp was actually infected, and that this infection had brought about rarefaction of the periapical bone.

—McCALL.

Odontology and Stomatology In Soviet Russia for the Past Decade

By PROF. GEORGE RANDORF, Leningrad

THIRD ARTICLE

THE ALL-UKRAINIAN STATE INSTITUTE OF STOMATOLOGY AND ODONTOLOGY IN ODESSA

In examining the work of the All-Ukrainian State Institute of Stomatology and Odontology in Odessa one must admit that dentists of the highest qualifications have been attracted to it, and, further, that proletarian odontology has introduced into the realm of mental processes a division of labor which has made it possible to create a number of specialists who have learned to do their lesser parts with greater perfection.

The registering statistician throws light upon the whole work of the Dental Polyclinic, as well as the study and regulation of the technical performance. The patient's registration card contains an account of the dentist's work. Eliminating the parts in the process of dental treatment which can be accomplished in a mechanical way, it represents a fair sample in working and money units of the work actually done by any dentist at the chair at any time. This card is called upon to play a still more important part in general State statistics on the prevalence of caries among working men, employees and peasants.

The proletarian students in the courses have been a fruitful source of information as to the state of things in their respective localities. On the other

hand, they are expected to become suitable propagandists of new ideas in dentistry and stomatological knowledge, which they will spread among the people upon their return to the far-off places of their dental practice.

The installations at the Institute have been mechanized and electrified, the scientific organization of the work is founded on modern methods, the differentiation between dental and dento-mechanical work fully carried out, and a new method of division of labor established.

Among other studies investigations have been carried on concerning the influence of certain injurious trades upon the health of working men and women. For instance, the result of an examination of the teeth of those engaged in tobacco factories and in polygraphic production is as follows:

Among 142 persons working in the sorting department of the First State Tobacco Factory of Odessa the examination revealed 124 carious teeth and 312 requiring extraction. In this case the proportion of missing teeth to those affected by caries would be 2.5:1. Now, if the teeth with gangrenous pulps are added, the following results, based on the examination of polygraphic and leather workers, have been obtained:

Name of Profession	Number of Working People Examined	Caries of Hard Tissues of the Teeth	Teeth with Complications of Soft Tissues	Filled Teeth	Teeth Missing or Subject to Extraction	Ratio of Missing Teeth or Those to be Extracted to Carious or Filled Teeth
Compositors	146	267	36	104	1076	3.5:1
Printers	57	90	9	45	284	2.9:1
Lithographers	17	43	2	17	94	2:1
Folders	10	13	3	31	88	5.5:1
Bookbinders	32	53	5	27	271	6.7:1
Shoemakers	32	8	11		77	9:1
Other Leather Workers.....	75	44	37		531	6.5:1

The figures above were obtained for all ages of workers, but a special examination of workers from 16 to 40 showed the following results:

Name of Profession	Number of Working People Examined	Caries of Hard Tissues of the Teeth	Teeth with Complications of Soft Tissues	Filled Teeth	Teeth Missing or Subject to Extraction	Ratio of Missing Teeth or Those to be Extracted to Carious or Filled Teeth
Compositors	111	214	32	83	569	2.3:1
Printers	43	72	7	35	144	1.8:1
Lithographers	13	35	2	16	50	1.4:1
Folders	10	13	3	31	88	5.5:1
Bookbinders	26	47	4	27	180	3.5:1
Shoemakers	24	8	10		81	4.5:1
Other Leather Workers.....	55	44	26		227	3:1

From these tables one might infer that the working men and women of the polygraphic branch of production had taken some care of their teeth, since 146 compositors had only 104 filled teeth. Yet these 146 compositors had lost 1076 teeth, which could not be ascribed exclusively to carious processes.

Still another interesting investigation was carried on by Dr. Kleitman by means of the induction current, in order to establish the influence of missing teeth on the sensitiveness and masticatory force of the others. This work was based on the data gathered by him in 1921 in *The Degree of Sensitiveness to the Induction Current of the Incisors and Canine Teeth of Working Men and Women Engaged in Injurious Pro-*

fessions. Those data were augmented by others on the different ways of reaction to the current on the part of the teeth adjoining sections of the alveolar arch devoid of teeth and of those having teeth on either side. In the new investigation all the teeth were included, and, besides, a new method was introduced, namely, that of the gnathodynamometer.

While statistics are available on the loss of teeth from transposition, change of interrelation to adjacent teeth and antagonists, as well as from carious processes, losses of sound teeth due to the absence of antagonists or neighbors do not attract enough attention. Hence I believe it is worth while to discuss this matter here a little more fully, bringing

the results of Dr. Kleitman's investigation to the attention of American odontologists.

Sensibility, as well as resistive force to obstacles, which a tooth can develop within physiological limits, is not so clearly revealed in the figures of the age groups as in connection with their position in relation to the remaining sound teeth. Therefore with reference to the results of deviation from the standard of sensitiveness to current and pressure of the gnathodynamometer the teeth were divided into groups according to the degree of damage sustained, as follows:

Group	I.—A tooth having 2 neighbors, the antagonist having 1.							
"	II.—	"	"	"	"	"	"	2.
"	III.—	"	"	"	"	"	"	1.
"	IV.—	"	"	"	"	"	"	0.
"	V.—	"	"	"	"	"	"	1.
"	VI.—	"	"	"	"	"	"	0.

It is found that in all cases of missing teeth the neighbors are generally weakened in their force of mastication by from 7.7% to 4.2%, and on the average in the case of printers by 20.4% and in that of compositors by 24.2%.

As to the sensibility of teeth to the induction current there is seen on the one hand a deadening effect, but on the other a marked increase. Besides, the amplitude of fluctuation is expressed more sharply in the case of compositors than in that of printers. The lowering of sensibility in the case of the former reaches 140%, which points to considerable changes going on within the teeth.

Teeth having neither neighbors nor antagonists sometimes show a decrease

of sensibility to the current of 200% to 226%. It may be safely said that such teeth can no longer be regarded as sound, but should rather be looked upon as teeth whose positions are weakened and therefore require the creation of such conditions where injurious factors, capable of bringing about deeper disturbances, should be eliminated. In case of indicated prosthetic treatment it becomes necessary to take into consideration not only the act of substituting artificial teeth for the lost ones but also the preservation of the patient's sound teeth. In other words, the question of the lateral pressure of pieces of food

during the process of mastication on the approximal surfaces of the teeth that were neighbors of the extracted ones, as well as that of the clasps of the removable appliance, is to be considered. For however perfectly a removable denture might fit, the teeth would experience the unnatural pressure on their approximal surfaces, and, being already weakened in their position in the alveolar arch, they would sooner or later go through the process of periodontitis from feeble excitation to heavy chronic inflammation and final decay. As the saying goes, "So many clasps, so many lost teeth."

Some of the views on this subject may be found expressed in almost identical words in the dental literature of America, Germany (Prof. Schmen-

gler, *Ergebnisse für Zahnheilkunde*, 1928), as well as in Soviet Russia (Prof. Dauge), yet there are some fine features which are especially emphasized by Dr. Kleitman both in his defense of the advantages of fixed bridgework over removable plates and the substitution of aluminum bridges. While the vulcanite denture enables the patient to produce a pressure of, say, $2\frac{1}{2}$ pounds with the incisors and 15 to 30 pounds pressure with the molars, the fixed bridge gives an increase of force to the former, bringing the pressure up to 30 pounds, and to the latter of 90 pounds. Besides, in the case of the fixed appliance the patient feels as if the teeth were permanent and no further thought is to be given to them, which means that he or she may apply the masticatory force to its full extent. Moreover, the utilization of sound teeth as supports for attachments for bridges saves them.

The investigations pursued at the Institute corroborated the importance of these advantages in the life of the working class, as well as the very large masses of the people to whom they would bring a great boon. The results favor the application of bridges, that is, bridges made of cast aluminum teeth,

to laboring people of the age of 25 to 40 for prophylactic reasons, as such application would greatly improve the health of the nation.

In defense of the idea of searching for a cheaper metal than gold and for selecting aluminum it is argued that, in addition to the great advantages of cheapness, durability, harmlessness and resistive power established by controlled experiments, aluminum is known for its property of stopping roentgen rays. For instance, an aluminum crown presents a picture as white as the tooth itself, while gold, silver and platinum, allowing the light to pass through them, present a black picture. The production of prosthetic work without roentgenology cannot be considered correct from a scientific point of view.

Of course there is strong opposition both in this country and abroad to the use of aluminum partial dentures, but my modest object is to show what some worthy men here and there think of the matter. Let those who think differently come forth and state their reasons for a contrary opinion as manfully as is done by the enthusiasts "on this side of the barricade."



The Morris L. Chaim and the Benjamin Lord Prizes for 1930

The First District Dental Society of the State of New York announces the following prizes. These prizes are to be awarded annually at the discretion of the Board of Directors.

The Morris L. Chaim Prize is offered for the most acceptable paper in the field of science and art as related to dentistry, which paper embodies the results of original research not previously published. This prize is \$250.00 and is offered by the Morris L. Chaim Fund.

The Benjamin Lord Prize is offered for the most acceptable paper in the field of clinical dentistry having an immediate and direct value in its application to practical needs, which paper embodies the results of original research not previously published. This prize is \$150.00 and is offered by the Benjamin Lord Fund.

Conditions:

1. *Eligibility.* Membership in good standing of any bona fide dental, medical or scientific society, or duly registered student of a recognized educational institution, prior to submission of the manuscript.
2. *Date.* Papers are to be submitted on or prior to December 1, 1930, to the Secretary of The First District Dental Society, 2 East 103rd Street, New York, N. Y.
3. *Manuscripts.* They shall be typewritten and accompanied by all necessary photographs, drawings, diagrams and tables and shall be ready for publication.

4. *Identification.* The manuscripts and all drawings, diagrams, photographs, tables, data, etc., shall be sealed in a plain wrapper or envelope which shall bear on the outside some symbol, group of letters, figures or other identification mark, and accompanying each such sealed packet or envelope, another sealed envelope having on the outside a duplicate of such symbol, group of letters, figures or other mark, and within this sealed envelope shall be placed the name and address of the person submitting the manuscript.

5. *Award.* The award shall be made by the Board of Directors of The First District Dental Society of the State of New York.

6. *Publication.* The First District Dental Society of the State of New York will consider the publication of the successful papers, but such publication shall not be binding on either party. Whenever and whenever published, the papers awarded the prizes shall be accompanied by this statement: "Awarded the Morris L. Chaim Prize or the Benjamin Lord Prize (as the case may be), by The First District Dental Society of the State of New York."

Further information may be obtained by addressing: E. M. Davies, Executive Secretary, The First District Dental Society, Academy of Medicine, 2 East 103rd Street, New York, N. Y.

DIGESTS

FOOD IMPACTION

By ISADOR HIRSCHFELD, D.D.S.

In this article the author goes into the causes of the impaction of food and, besides citing the well-known contributing factors such as lack of contact points and marginal ridges, stresses the importance of retaining all normally erupted third molars.

He states also that when a tooth is wedged away from its neighbor, the septal tissue remains comparatively intact on the side of the tooth moved, but that pocket formation takes place on the other side. When food impaction results from the elongation of a tooth, proximal caries appears first on the elongated tooth. When food impaction results from the tilting of teeth, proximal caries starts on the side toward which the teeth are inclined. In both of these instances the caries usually begins in the denuded cervical cementum. When a rotated tooth causes food impaction, caries starts on the rotated tooth usually at the contact point. Twenty pathological conditions can be enumerated as resulting from food impaction.—*The Journal of the American Dental Association*, August, 1930.

TREATMENT WITH SODIUM RICINOLEATE

By ARVAH S. HOPKINS, D.D.S.

The author claims that in periodontal disease, if the invasion of pyogenic

organisms can be stopped, then excellent results will be obtained. Furthermore, he states that if by hygienic measures and the use of a detoxifying agent it is possible to keep the gingival tissues free from the toxins produced by these bacteria then the excellent results will continue.

Such an agent is sodium ricinoleate. When it is used, there is less inflammation and less pain following instrumentation, and the tissues respond more quickly to treatment. There is a marked reduction in the quantity and virulence of the bacterial flora of the mouth. When the irritating effects of tartar formation have been removed and the tissues massaged with sodium ricinoleate cream, the tissues return to health in spite of other unfavorable conditions, such as diet.

The author states in his conclusion that pyorrhea can be cured by the use of sodium ricinoleate and proper instrumentation.—*The Dental Cosmos*, August, 1930.

MANIPULATION OF THE GINGIVAL GUM TISSUE

By C. MAYNARD WOODWARD, D.D.S.

One of the great questions in oral surgery is what should be done with the gingival soft tissues so that they can be gotten out of the way during the operation and yet be cared for so that they will receive no serious injury.

No hesitancy need be felt in elevating

a generous section of the gum tissue, and this should be done with a blunt periosteal elevator. If the operation necessitates the cutting of the alveolar bone, then the flap should extend at least as far as two teeth on each side. The interdental papillæ should be elevated also and not left *in situ*.

The incisions are made diagonally and away from the area to be operated on. They are made with a sharp knife or scissors, and only after the gum tissue has been freed from the underlying bone. When incisions are made in edentulous areas, they should be in such positions that the edges of the flaps when replaced will rest on sound bone, and it is usually best to make the incision along the crest of the ridge. — *Dental Items of Interest*, August, 1930.

ACUTE PNEUMOCOCCUS ENDOCARDITIS FOLLOWING EXTRACTION OF TEETH

By ROBERT KAPSINOW, M.D.

The patient, a man 34 years of age, was admitted to the hospital because of shortness of breath, substernal tenderness, fever and weakness. Three weeks previously he had had six teeth removed because of pyorrhea and abscesses. A week after that he had had six more extracted.

Following this his legs became stiff, he felt weaker, and there was a slight substernal pain. Two days before admission to the hospital there were fever, profuse night sweats and increased shortness of breath.

On admission the patient was slightly

restless and apprehensive, the respirations were slightly labored and he was perspiring freely. Temperature: 98. Pulse: 108. Respiration: 24. Blood pressure: 104-60. The teeth that remained were in good condition, and the extraction wounds had healed except the right mandibular first bicuspid.

In the next twenty-four hours the temperature rose to 101, then went back to normal and on the next day, following a chill, went to 102. The pulse remained at 110. The blood count showed the red cells fairly constant at 4,500,000 and the white cells ranging between 18,000 and 20,000. On the fourth day colonies of pneumococcus appeared in the blood cultures, and a smear from the infected socket gave pneumococcus and streptococcus hemolyticus. An x-ray of the chest gave no evidence of pneumonia.

The patient died one week after admission. There was no autopsy, and the diagnosis was acute pneumococcus endocarditis and septicemia following extraction of teeth.

The author stresses the importance of the proper preparation of the mouth for an extensive operation, and also the advisability of having the patient's general condition ascertained by a physician.—*The Journal of the American Medical Association*, August 9, 1930.

THE PROBLEM OF THE PULPLESS TOOTH

By J. R. BLAYNEY, B.S., M.S., D.D.S.

After a clinical and laboratory investigation of many cases the author comes to the conclusion that not in every case showing certain degenera-

tive processes about the root-end is extraction indicated, because frequently repair takes place following proper treatment, and a satisfactory condition is maintained for years.

Root-canal treatment can be carried on properly only when the biologic forces involved are taken into consideration. Without this there will always be criticism of the treatment of pulpless teeth.

Simple acute abscesses and chronic abscesses that develop into an acute stage have an excellent prognosis. Simple granulomata heal up when bacteria,

toxins, necrotic material, etc., have been removed. It is necessary to determine whether or not the apical cementum is necrotic. Repair cannot take place in the latter condition.

The tooth should be extracted when there is danger of the maxillary sinus becoming infected, when the tooth is not of sufficient value to the patient, when the patient is suffering from focal infection and all other foci have been removed, in cases of tuberculosis, diabetes, etc., and when reparative processes have become impaired.—*The Journal of Dental Research*, August, 1930.

Foreign Dental Literature

Edited by JOHN JACOB POSNER, LL.B., D.D.S., New York, N. Y.

DENTAL SURGERY

By DR. BERNHARD STEINER, Vienna, Austria

There are teeth whose apices are so hooked that it is almost impossible to remove them without fracture. Sometimes these apices are in the region of the antrum and present great difficulty in their removal. X-rays should be used freely before an extraction.

The author refers to a case of third-molar extraction in which 2 c.c. of a 4% solution of novocain was used to clean up the infected area and remove the tooth, an operation which lasted nearly two hours. The tooth was removed, the socket irrigated and then filled with balsam of Peru. A light iodoform gauze dressing dipped in camphorphenique was placed in the socket.

The author believes that tiny pieces of the apex of a third molar, broken

off near the mandibular canal, may be allowed to remain there safely. In such cases the tooth must have been vital.

The author likes balsam of Peru in wounds of the mouth, as it keeps the socket clean and is an excellent preventive of after-pain and swelling. For some people particularly, it is more acceptable than iodoform gauze.

In root amputations the remaining root-end is drilled out until near the outer edge and is then filled with copper amalgam.—*Zeitschrift für Stomatologie*, June, 1930.

NEURITIS OF THE DENTAL PULP

By PROF. MAURICE ROY, Paris, France

1. Independent from inflammatory and infectious diseases of the dental

pulp there exists a neuritis of the pulp, a genuine pathological change in the nervous elements of this organ.

2. Though the infectious and inflammatory lesions have been known for a long time, this is not the case with the neuritis.

3. This lesion of the nerves may cause the symptoms of trophic and sensory troubles; it affects either the coronary pulp, the pulp of the root or small areas of either and is dependent on local or general causes.

4. The trophic disturbances become evident in the form of a spontaneous necrosis of the pulp developed from a pulpitis of trophic origin.

5. We observe the trophic troubles mostly with constitutional neuritis (*nevrites de cause generale*) either in the form of total necrosis of the pulp or as a petrification, more or less pronounced, at all events independent of caries in all cases.

6. The sensory disturbances, provoked by local irritation, pressure or chemical influences, affect any part of the pulp. Even the smallest remnant left in the canal, as well as the finest filaments, may give rise to neuritic symptoms.

7. The sensory disturbances of genuine neuritis of the pulp, on the other hand, are marked by an analogy with the symptoms of alveolophlegmon, attention to which Babinski has drawn in connection with neuritis of exogenous origin. Disappearance of said symptoms can be attained by destruction of the affected nerve-elements, without touching the apical region.

8. The diagnosis is facilitated by noting the increased sensibility to heat, which is very pronounced in many

cases.—*Zahnärztliche Rundschau*, July, 1930.

ELEPHANTIASIS OF THE GUM FROM AN INFLAMMATORY CAUSE

By DR. HANS ZIMMERMAN,
Dental University of Königsberg, Germany

By elephantiasis it is intended to denote a condition of hyperplasia and hypertrophy of the subcutaneous tissue and skin. The cause is looked for in a lymph stasis and failure of the veins to carry off the blood from the skin. There is an increased growth of the part, and in young people there is an increase in the size of the underlying bone. The muscle tissue is free from involvement. Some authorities believe that streptococci are responsible for the changes in the lymph vessels, thereby leading to the disease. Tissue affected with elephantiasis is particularly susceptible to streptococci. Other authorities believe that the causative streptococci are to be found in the teeth and tonsils.

A feature of elephantiasis is the large amount of tissue fluid and lymph present.

The classification of elephantiasis is as follows:

- A. Congenital and hereditary.
- B. Acquired.

- 1. Mechanical causes.
- 2. Infection.

- a. Lues.
- b. Tuberculosis.
- c. Streptococcus.
- d. Traumatic edema.

- 3. Elephantiasis of the nose.
- a. Unknown cause.
- b. Neurological.

c. Psychological.
d. Endocrin.

Elephantiasis of the face is not frequent and is caused chiefly by erysipelas. Tuberculosis, syphilis and actinomycosis are the inflammatory causes of this enlargement.

The case described by the author involved both the maxilla and the mandible, and from photographs of plaster models it may be seen that the hypertrophy of the gums is very extensive. On the upper right side the teeth are obscured by the growth. A vile discharge was seen about the necks of the teeth. X-rays show three retained third molars and two mandibular second bicuspid.

The growths were radically removed, together with the teeth involved, until healthy bone was reached. Under local anesthesia all diseased tissue was eradicated with the electric knife. Healing was excellent.—*Deutsche Zahnärztliche Wochenschrift*, July 20, 1930.

THE RETENTION OF MAXILLARY THIRD MOLARS

By DR. G. TOURBIER,
Dental University Clinic, Jena, Germany

There is much that has been written about impacted mandibular third molars, as such conditions are common. In the maxilla, however, the most frequently impacted tooth is the canine, and then the third molar.

The author refers to three cases of retained maxillary third molars. In the first case a second bicuspid was extracted because the patient had a vague pain in that area. Radiographic exam-

ination disclosed an impacted third molar, which was removed. Severe swelling and pus were present in this case, with inflammation of the tonsillar region and also submaxillary swelling. This point is interesting because the case involved the maxilla.

In the second case the patient complained of pains on the side of the head. The x-ray showed an impacted third molar, and because of its position it was decided to remove the second molar as well. All efforts to extract the second molar with forceps proved unavailing and a flap was made, the bone removed with burs and the second molar removed. The third-molar crown was then exposed and this tooth extracted, and in doing so a small opening into the antrum resulted. The wound was irrigated with H_2O_2 , dressed with iodoform powder, and the perforation sewed up carefully. In four days the patient was dismissed.

In a third case a horizontally impacted maxillary third molar was removed.

In all the cases the patient could not localize the pain, which is a good point to bear in mind when an obscure pain brings the patient to the office.

The difficulty of maxillary third-molar impactions lies in the fact that there is little room in which to work so far back in the mouth, since the cheek interferes. Another feature is the danger of entering the antrum. It is impractical to use chisels in this area, and the bur is needed to remove overlying bone. It is important to watch closely in removing bone, as tooth structure and the compact bone in this region look almost alike.—*Deutsche Zahnärztliche Wochenschrift*, July 20, 1930.

RADIATION, LIGHT AND ELECTROTHERAPY

By GEORGE BLESSING AND GERHARD
WEISZENFELS, Heidelberg, Germany

Radium was used many years ago to destroy micro-organisms, but with little success. In recent years, however, the use of radium has grown and now exerts a beneficial effect on diseased tissue of the mouth.

In the field of dentistry the main function of radium is to clear up cases of malignant growths. Many of the tumors found in the mouth are of the malignant variety. In surgical treatment of these cases the growth is removed together with most of the organs of the mouth and the radical removal of the glands, not merely on the infected side but on the opposite side as well. Many times the growth is so extensive that operation is impossible. Only a third or a fourth of those operated upon are really cured. Those cases presenting for ray treatment consist of inoperable cases and relapses.

Today many believe that the use of radiation gives the best results. Many factors work against the success of radiation therapy, chief of which is the malignant character of the growth in the mouth. In the beginning they are not readily recognized. Rapid growth

and extremely early metastasis often render an operation hopeless.

Tumors which respond readily to radium in other parts of the body seem to be unaffected when they occur in the mouth.

The periosteum of the bone is highly sensitive to radiotherapy. The lymphatics are overburdened with the broken-down tumor substance.

There is often considerable bleeding in the mouth, which may be due to the tearing of an artery in the tumor.

A great difficulty is the application of the radio-active substance to the tissues. The easiest method is to attach the radium to the surrounding teeth.

Radium packs are used for radiation at a distance. The treatment usually lasts from 12 to 20 days.

In carcinoma of the tongue early surgery may succeed, but in the later stages radiation is more valuable.

The radium compress has real value. In a series of cases it was shown that pain diminished following its use. This was particularly seen after operations in the mouth and in cases of pericoronitis. Since the compress is never warmed, it is seen that its therapeutic value arises not because of an increased temperature, as is the case with diathermy.—*Die Fortschritte der Zahnheilkunde*, July, 1930.



PRACTICAL HINTS

THIS DEPARTMENT IS NOW BEING CONDUCTED FROM THE OFFICE OF THE DENTAL DIGEST. TO AVOID UNNECESSARY DELAYS, HINTS, QUESTIONS AND ANSWERS SHOULD BE ADDRESSED TO EDITOR PRACTICAL HINTS, THE DENTAL DIGEST, 220 WEST 42D STREET, NEW YORK, N. Y.

NOTE—Mention of proprietary articles by name in the text pages of THE DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule.

Editor, Practical Hints:

I should appreciate having a report on the amount of calcium lactate to administer during pregnancy.

K. J. C.

ANSWER.—This department does not believe that a dentist should prescribe for a patient who is under the care of a physician. It is well to have a consultation with the physician, telling him what is best for the teeth of the child and mother, but it seems to us that the prescribing should be left to the medical man.

Most physicians, in this day, are fully aware of what the expectant mother needs, since the same diet that is necessary to insure good teeth is also necessary for the building of good solid bone. Sometimes, however, due to idiosyncrasies, it is difficult to get the patient to take the proper foods.

Editor, Practical Hints:

Do you know of some effective application to the mucosa previous to the insertion of the needle for the purpose of eliminating pain?

M. G.

ANSWER.—A solution of butyn applied topically to the gum will in a great measure prevent any pain from the insertion of the needle. However, the use of a very small-gauge sharp needle will work just about as well, provided that a drop of the solution is deposited as soon as the mucous membrane has been pierced.

Editor, Practical Hints:

One of my young patients, a boy aged nine, has just suffered the traumatic loss of an upper central incisor in a fall while at camp. The adjacent permanent central and lateral incisors are normal but not fully calcified.

May I have your opinion as to the advisability of restoration? If in the affirmative, how? If in the negative, what precaution would you take to preserve the normal alignment of the adjacent incisor teeth to the dental arch?

B. H. S.

ANSWER.—In so young a patient a permanent restoration would be inadvisable. The space should be maintained and this may be accomplished by plac-

ing narrow bands on the central and lateral and connecting them by a wire.

The patient should be kept under close observation until the teeth are fully calcified, when a permanent restoration may be placed.

Editor, Practical Hints:

What in your opinion is the simplest technic for obtaining root-end cultures immediately upon extraction?

R. B. J.

ANSWER.—Through the courtesy of Dr. Freeman we are outlining the simplest safe technic for root-end cultures.

"1. Thoroughly scale the tooth to be extracted, also the adjoining teeth.

"2. Paint tooth and gingivae with tincture of iodine, followed by dilute alcohol about 80%.

"3. Where there is evidence of inflamed or infected gingival margins, it is wise to cauterize them either by use of hot cautery or even a hot spatula. This is done of course after the part has received anesthesia.

"4. Sterile gauze or cotton rolls are placed both lingually and buccally to prevent contamination from oral fluids.

"5. The tooth should be elevated as much as possible until it appears to be quite loose before the forceps are applied. With gentle traction the tooth is removed, being careful not to brush against the lip, cheek, etc.

"6. The platinum or chrome wire loop is then passed through the flame until red hot, allowed to cool for a moment and then touched to the apex of the tooth, agitating the loop against the root. If a granuloma is adherent to

the apex, it is best first to sear or puncture this with the sterile loop and then reheat the loop and obtain the material.

"7. The loop is then introduced into the bouillon broth, being sure to pass the upper end of the tube through the flame before and after the introduction of the loop.

"8. The culture tube is then incubated at 37.5° Centigrade for at least 24 hours or longer.

"The only materials needed are a platinum or chrome wire loop and tubes of 2% glucose bouillon broth."

Editor, Practical Hints:

Please send details of the Howe method of treatment with silver nitrate for sterilizing dentin after the removal of decay.

G. N. D.

ANSWER.—The Howe treatment consists of the use of two liquids. Solution No. 1 is an ammoniacal silver nitrate. Solution No. 2 is a 25% solution of formalin in water, or in its place eugenol may be used.

In the treatment of pits and fissures the tooth is isolated and the area is soaked with solution No. 1. This is left for a few moments and then solution No. 2 is used. A black precipitate of silver nitrate is produced and consequently the treatment can be used only when the color will not be objectionable. After a few moments all excess liquid is removed and the process may be repeated again if thought necessary.

The solutions may be purchased ready made from your supply house, and in this form they are more economical and less bothersome than when made in the office.

Editor, Practical Hints:

Please favor me by publishing the formula, or an approximation thereof, of Talbot's iodine.

J. W. B.

ANSWER.—The formula for Talbot's iodo-glycerol is as follows:

Zinc iodid	12 gm.
Water	8 c.c.
Iodin	20 gm.
Glycerin	40 c.c.

Dissolve the zinc iodid in the water, add the iodine and, when completely dissolved, add the glycerin.

Editor, Practical Hints:

I made a partial upper for a patient, and after wearing it for a few days he developed a swelling with great pain on the left side near the third molar.

The radiogram shows no root.

He discontinued wearing the plate until the pain and swelling subsided.

I made him a new plate. After wearing it for ten months, he developed the same swelling with pain in the same place.

Kindly tell me the cause of it, and what treatment would you institute?

T. M. T.

ANSWER.—The alveolar process in the region of the pain and swelling may be rough with sharp points, causing pain and inflammation on pressure. If this is the case, the process should be smoothed down.

Another possibility is that the force of occlusion is too strong in that area, and relief by grinding may clear up the trouble.

Editor, Practical Hints:

Please tell ways to prevent children

from sucking their thumb—one case a baby less than a year old, another a child of four.

I should also appreciate some information how best to treat teeth that are sensitive under clasps.

H. L. J.

ANSWER.—There are a number of devices on the market, some made of celluloid, that will effectively prevent thumb-sucking. A child four years old can be reasoned with and should be told that as soon as the habit is broken the appliance will be left off.

When teeth are sensitive due to wearing clasps, the use of silver nitrate or zinc chlorid will give only temporary relief. The sensitive areas may be cut out and inlays placed. Diet and the taking of calcium will probably have little effect, since the erosion is mechanical and not due to the action of the saliva.

Editor, Practical Hints:

What in your opinion is the value of the so-called suction devices as an aid in using artificial dentures?

I have several cases where I find it impossible to obtain the proper suction, and I wonder if suction cups are of any value.

J. S. B.

ANSWER.—The use of suction devices is not advocated by those who do any amount of denture work, nor is their use taught in the schools. The value of the suction cup is only temporary, and it causes congestion and hypertrophy of the tissues. On the whole, it would be better to get along without its use.

Make a denture from the best impression obtainable and, although it may be difficult at first and take some perseverance, yet in the end the patient will probably be able to get along satisfactorily.



[FIXED BRIDGEWORK]

I strongly advocate fixed bridgework where the length of the span is within the supporting power of the abutment teeth. Experience has proved that fixed bridgework does not cause periodontal diseases if the occlusion is properly adjusted. Finally, fixed bridge-work does not lead to focal infection if the vitality of the pulps in abutment teeth is properly safeguarded, and if sanitation of the piece is properly provided for. These things can be accomplished.

—DOXTATER.

CORRESPONDENCE

Editor, The Dental Digest:

I am sending you what I consider an odd case. In extracting the lower right central incisor the lateral incisor came



with it, and I found that the two teeth were joined from the crown to the apex.

M. M. SHERMAN,
Hampton, Va.

Editor, THE DENTAL DIGEST:

At the urgent request of Dr. Joseph H. Kauffmann of the Harlem Dental Society I would ask that you insert the following warning to all dentists against a certain prowler who burglarizes dental offices.

This man is probably a Greek or Porto Rican, about medium height, rather spare build, about 140 lbs., dark-complexioned, dark hair, and drawn face, wears a plain straw hat and dark suit.

This man sat on the doorstep of the entrance to my office every day for about one week. Monday morning we found

the back door broken in, the dental cabinet glass door smashed and all the patients' work stolen.

After the robbery the janitress told me she found this prowler one morning at the back door of my office, which adjoins the entrance to her apartment, whereupon he asked her if she had a key to the office, as he had left a package here.

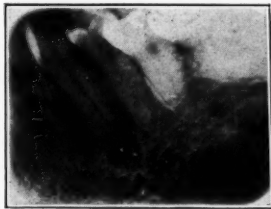
He then got information about the opening and closing of the office, the cleaning woman, etc. Since the robbery he has not been seen.

I would suggest that any dentist who sees any such suspicious person about, communicate with my office to verify the description and so stop these annoying burglaries.

MURRAY SIEGEL, D.D.S.
1629 Lexington Avenue
New York, N. Y.

Editor, THE DENTAL DIGEST:

I am enclosing a radiograph for your examination. It might be of interest to some of the DIGEST readers.



It is of the lower left cuspid. The

tooth is positively vital, as evidenced by the electric pulp-tester. I also opened the lingual surface far enough into the dentin to get definite pain.

What appears to be an abscess is *not* the mental foramen, as the mental foramen shows clearly in another x-ray of the molar region.

I have referred the case for clinical examination to two eminent oral

surgeons, both of whom say that there is no pathology present.

On the other hand, one equally prominent dental roentgenologist says positively that there is a pathological condition present.

S. M. HART
8 South Main Street
Port Chester, N. Y.



DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All communications should be addressed to Elsie Pierce, care of
THE DENTAL DIGEST, 220 West 42d Street, New York, N. Y.

NOTE—HAVE YOU A BETTER WAY? HAVE YOU A TIME-SAVING SHORT-CUT? DO YOU KNOW A "STUNT" THAT LIGHTENS THE WORK OR MAKES FOR GREATER EFFICIENCY IN THE OFFICE? IF SO, WRITE TO ELSIE PIERCE. YOU MAY HELP MANY GIRLS WHO ARE BEGINNERS—AND YOU KNOW HOW YOU NEEDED HELP DURING YOUR FIRST FEW MONTHS IN A DENTAL OFFICE. PERHAPS YOU NEED HELP NOW. WRITE TO ELSIE PIERCE—SHE WILL HELP YOU.

Dear Miss Pierce:

I have just started to work for a dentist and thought you would be able to help me. As the work is entirely different from anything I have ever done, I am interested in securing some kind of a short correspondence course in dental assistance.

T. C., Ohio.

ANSWER.—We regret that we do not know of any dental colleges giving correspondence courses in dental assisting.

The reply to E. W., Los Angeles, published in the September issue of THE DENTAL DIGEST, should help you.

We suggest that you join the Toledo Dental Assistants' Society. Write to Mary Spear, President, 615 Spitzer Bldg., Toledo, Ohio.

Dear Miss Pierce:

I am enclosing a suggestion for the preservation of extracted teeth. Place them in dioxogen, full strength, for a day or two. This takes off all blood

stains and softens any tissues, making removal very easy. Then dry on a towel. I have bleached and cleaned many teeth in this manner.

Dr. C. L. A., Rochester, N. Y.

We appreciate this suggestion from a dentist, and know that our readers will also.

Dear Miss Pierce:

I am working for a dentist. I have never done so before, but I have been a private secretary in a very large concern.

I should like to know whether or not I am doing the right things to please my employer. I do all the secretarial work and assist at the chair. I also take care of his personal business, dealing with real estate, correspondence, bills, checks, etc. My position is one of responsibility, and I do everything to please him.

I am not quite familiar with the mixing of cements and x-ray work as yet. Is there anything that you can sug-

gest that might help me to be more valuable to my employer? Can you tell me just how much you think this work is worth per week?

F. K.

ANSWER. — The suggestions to E. W., Los Angeles, (September issue) and to T. C., Ohio, above should help you. In addition we suggest that you take advantage of the demonstrations on the proper mixing of cements, synthetic porcelains and alloys given in the various dental supply houses. Your employer will no doubt be glad to have you take the time for this instruction. You can also secure instruction to perfect your x-ray technic from the concern from which your employer bought his machine.

There are no fixed wages that we know of for professional service. Your ability and the willingness of your employer to pay commensurate salary are the determining factors. You will never receive more than your employer is willing to pay, even if there might be a sum quoted to you.

May we suggest also that you join the society for dental assistants in your city and take advantage of the classes which they conduct for their members.

Dear Miss Pierce:

I should be very grateful if you could give me some information as to where I can take a dental hygienist's course. The difficulty lies in the fact that I have to work while studying. The course at Columbia covers a full day for a college year, which makes it impossible for me to attend, and I do not know of any college where this course is given at night. The Doctor has very kindly offered to spare me

from the office for a few hours during the day. Any suggestions you offer will be greatly appreciated.

D. P., New York.

ANSWER.—We know of no evening courses for dental hygienists given in New York or elsewhere. We suggest that you write to Miss Evelyn Gunnarson, President of the New York State Dental Hygienists' Association, 475 Fifth Avenue, New York, who may be able to give you further information on the subject.

Dear Miss Pierce:

I have a couple of red streaks under my thumb-nails, and the ends of the nails are slightly splitting. They have been this way for the past year, and dental salesmen tell me it is novocain poisoning. Are these the symptoms of novocain poisoning, and, if so, what can be done?

Dr. G. G., Washington.

ANSWER.—Manifestations of novocain poisoning may assume various characteristics. The symptoms you describe are not at all common. I suggest that you consult the best medical authority in your city. In the future I would urge that you use rubber gloves when preparing and administering novocain, in order that there may be no contact of the solution with your hands. Why not consult the manufacturers of novocain on this subject?

Dear Miss Pierce:

The spray bottles on the unit get discolored. What can I use to clean them?

I am a faithful reader of your column and want you to know that it has been of great help to me.

A. B., Conn.

ANSWER.—Wash the spray bottles out carefully with a white-soap and

warm-water solution. If the sediment is not removed easily, use some BB shot in the solution, but a bottle brush usually does the work. Do not use an acid solution unless with great care, as the nickel rims on the bottles will not stand acid without blemish.

Educational and Efficiency Society for Dental Assistants, First District, New York, Inc.

The first meeting of the new season, on Tuesday, October 14, 1930, will usher in an augmented program of education for the Educational and Efficiency Society for Dental Assistants, First District, New York, Inc. A series of lectures and clinics has been arranged covering the many phases of dental assisting. Classes on sterilization, x-ray assisting, laboratory technic, chair assistance, practical psychology, secretarial duties, first aid, care of equipment and dental anatomy are in preparation. These classes will be free to members and are under the supervision of teachers from the professions.

The Librarian is collecting new material for the Library, which at present contains many articles taken from the dental press and a pictorial history of dentistry. The contents of the Library are available to members at all times

and may be secured by addressing the President, Mrs. E. V. Shoemaker, Kew Plaza, Kew Gardens, N. Y.

It is the purpose of the Society to aid its members in acquiring knowledge in matters pertaining to their duties, to show them a larger conception of service in dentistry and to inspire loyalty to the ideals of the dental profession. The Society does not conduct a registry and is not connected with any commercial enterprise. Dental assistants employed in ethical dental offices are eligible for membership and are urged to join and share the many educational advantages such association offers.

Meetings are held regularly on the second Tuesday evening of each month, October to May, inclusive. A cordial invitation to attend is extended to the members of the dental profession and to their assistants.

Montreal Dental Assistants Association

The first executive meeting of the season of the Montreal Dental Assistants Association took place on Sep-

tember 3, 1930, with Mrs. M. McKennan, president, in the chair. The principal item of discussion was the

approaching annual convention and exhibit of the Association which is to take place at the Windsor Hotel, Montreal, October 16-18, 1930.

All dental assistants are welcome to attend this convention and exhibit, where they will have an opportunity of

meeting and hearing some of the outstanding personalities in the dental profession.

For further information, address the president, Mrs. M. McKennan, Suite 301, Medico-Dental Building, Montreal, Canada.

The Importance of Dental Business Records*

By GERTRUDE J. RUSH, Newark, N. J.

The importance of keeping detailed dental records and positive dates cannot be overstressed. A competent assistant who keeps accurate typewritten records of every service rendered is indeed indispensable in the dental office.

The importance of relief from business responsibility for the dentist is self-evident, in order that he may render humanity health service to the best of his ability.

A special folder for each individual patient, with his name in full written upon it, is a wonderful convenience. This folder should contain the patient's mouth chart, with such data as name in full, home and business addresses, home and business telephone numbers, patient's age, medical history, if any; approximate estimate and terms per agreement.

Also, the name of the person who referred the patient should be taken and a business courtesy card should be mailed thanking that person.

All cavities, missing teeth, restorations, etc., old or new, may be dis-

tinguished quite easily by use of the three-color pencil system.

Next comes the service sheet, disclosing such information as the date, service rendered and location, fees, receipts and balance due (all discount fees to be shown in red).

A record should be kept of the time spent during each appointment, affording a realization of actual productive hours in a dental office. This is an important factor in determining the cost or overhead of a dental practice.

The patient's radiographs may be filed in the same folder, as well as the duplicate or carbon copy of all correspondence pertaining to the case, such as verifications of estimates and agreements, etc.

What a time-saver, when a patient is seated, to refer to only one file and have a complete record of everything concerning the patient and the dentist!

Keep an emergency call list on hand for business men and patients who cannot make definite appointments, but who sometimes may come at an hour's notice to fill in a cancelled appointment.

When making an appointment over

* Read before the American Dental Assistants Association, Denver, Colorado, July 21, 1930.

the telephone, it is well to mail an appointment card written in ink to verify it in case of a misunderstanding.

Upon the final visit of the patient, suggest the mailing of an appointment for examination six months hence. If the patient agrees, place his name in the prophylaxis file and send a notice of the appointment ten days in advance.

Blank checks and blank legal notes are many times a necessary convenience.

An income-tax expense sheet, kept daily and distributed in subdivisions such as are called for by the income tax,

saves much time and worry at the end of the year.

Comparing monthly reports of fees, discounts, receipts and expenses with last year's similar monthly reports is often an incentive and check-up for the dentist.

I have attempted to outline a business system, simple, efficient and economical, of much use and value in a dental office. If conscientiously and systematically practiced daily, it becomes a habit—and a good one at that! What is more, you have a compact directory with an answer to every question that may arise.

806 Clinton Avenue.



BOOKS RECEIVED

A BOOK MAY BE AS GREAT A THING AS A BATTLE—DISRAELI

Dietetics and Nutrition, by Maude A. Perry, B.S., formerly Director of Dietetics at the Michael Reese Hospital, Chicago, Illinois, and at the Montreal General Hospital, Montreal, Canada.

While this reviewer does not pretend to possess any great knowledge on this much disputed subject, a reading of the book leaves the impression that it is a sane presentation by one who has had much practical experience. It is simply written and, as might be expected, is free from any form of faddism.

The values of the various classes of food are given and the processes of digestion and metabolism described. The feeding of infants and children and of the sick and the food requirements of old age are considered, followed by chapters devoted to certain diseases such as diabetes, anemia, tuberculosis, etc.

In view of the fact that the food faddist, with no scientific knowledge or training and frequently actuated by commercial motives, is rampant in the land, it is a relief to read a sane book on the subject, and we can heartily recommend it to those who wish to gain a knowledge of dietetics from an author who has had practical experience under competent guidance.

324 pp., and index. St. Louis, Mo.: The C. V. Mosby Company, 1930.—A. M. J.

Prosthetic Dentistry, An Encyclopedia of Full and Partial Denture Prosthesis, by Ira Goodsell Nichols, D.D.S., Special Lecturer and Instructor in Dental Prosthesis, Dental Department, United States Naval Medical School, Washington, D. C.

In addition to the writings of the author this book contains the work of forty-five other men. Much of it is reprinted from articles that have been published elsewhere, and the term *encyclopedia* is not strictly accurate. It is by no means exhaustive of the subject. Under the present conditions of denture prosthesis it would be a huge and useless task to discuss the various sides of the many points that are in dispute.

For the man in general practice who does his own laboratory work this book may be of value for the purpose of reference; for the man who specializes in denture work it will have little appeal.

668 pp., with 830 illustrations and index. St. Louis, Mo.: The C. V. Mosby Company, 1930.—A. M. J.

Dentistry, A Profession and a Business, by A. B. William Suter, D.D.S.

Many books have been published on the establishing and conduct of an

office, but we can recall none so complete and authoritative as this. To the man who has just graduated and is ready to start out in his life's work it will be invaluable. For the man who has been in practice for a number of years it should prove to be of great assistance, for the material has been gathered by contact with hundreds of successful dentists throughout the country.

The choice of location, the arrangement and financing of the office are carefully detailed. The administration of the office is presented fully and according to the best thought upon the subject. While the author stresses the fact that the dental office must be made to pay, yet the ethics of the profession and the interests of the patient are given the prominence to which they are entitled, and without which no practice can be successful in the fullest meaning of the word.

Dr. Suter is to be congratulated on the result of his labor, and it is to be hoped that this book will receive the widespread recognition that it deserves.

390 pp., with illustrations. Rochester, N. Y.: Ritter Dental Manufacturing Co., Inc., 1930.—A. M. J.

A Text-Book of Operative Dentistry, by William Harper Owen McGehee, D.D.S., M.D., Head of the Department of Operative Dentistry, Professor of Operative Technology and Secretary of the New York University College of Dentistry.

One of the features worthy of note is the emphasis that this book places

on specialization. Other works on this subject have included sections on exodontia, orthodontia, periodontoclasia and roentgenology. Here we find that they are conspicuous by their absence.

Operative dentistry, according to this author, consists merely of the filling of teeth and yet in his introductory remarks he defines operative dentistry as being "that particular branch or specialty of the science and art of dentistry which aims at the preservation of the natural teeth and their supporting structures, or restoration to a state of health and beauty." This is not to be taken as a criticism. It merely points out the present trend of affairs in medicine and dentistry, a tendency which is deplored by many thoughtful men in both professions.

As a textbook on the filling of teeth this work is admirable and can be unreservedly recommended to the student and general practitioner. Dr. McGehee has a wide reputation as a teacher, and here he gives the knowledge, set down with painstaking care, that has made him so successful.

The stress laid on the consideration of the position of the operator is worthy of careful study. In the past too little thought has been given to this and its effect on the nervous and physical well-being of the practitioner. Many serious ills can be traced to faulty posture.

The text is amplified by many illustrations that clearly bring out the points under discussion, and the presswork is worthy of the house that has put its imprint on it.

920 pp., with 1040 illustrations and index. Philadelphia, Pa.: P. Blakiston's Son & Co., Inc., 1930.—A. M. J.

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

A dog chasing his tail is no more foolish than the man who spends all he earns.

It's easy to tell the waiters from the guests in a bootlegging joint. The waiters are sober.

"Just where did the automobile hit you?" asked the magistrate.

"Well-I-I," said the injured young lady, "if I had been wearing a license-plate, it would have been pretty badly damaged."

(Teacher—kindly)—I hope you brush your teeth regularly, Maggie?

(Little Maggie)—Why should I? There ain't no hair on my teeth. The idea!

HA! HA! ONE FOR THE KIDS

A big medical authority has just announced that it would be a lot better if the parents would eat spinach instead of making children do so.

(Friend)—What caused the coolness between you and that young doctor? I thought you were engaged.

(Mabel)—It was all on account of his illegible handwriting. He sent me a note calling for ten thousand kisses. I thought it was a prescription, and took it to a drug store to be filled and got the merry ha, ha!

A New York farmer hustled around amongst his friends and gathered up all the old auto license-tags, he could get, saying they would make a good fireproof roof for his barn. There is safety in numbers, you know.

Jimson had risked his life to rescue the girl from a watery grave and, of course, her father was very grateful.

"Young man," he said, "I can never thank you sufficiently for your heroic act. You incurred an awful risk in saving my only daughter."

"None whatever, sir," replied Jimson, "I am already married."

(Patient, angrily)—The size of your bill makes my blood boil!

(Doctor)—Well, that will be \$20 more for sterilizing your system.

NATURE IS WONDERFUL

In the breast of a bulb is the promise of Spring;
In a little blue egg there's a bird that will sing;
In the soul of a seed is the hope of the sod;
In the heart of a child is the Kingdom of God.

(Doctor)—Nothing the matter with you at all. You are in perfect health. Why, your pulse is as steady as clockwork.

(Patient)—But, doctor, you've got your fingers on my wrist watch.

(Music Critic)—How did you like the barcarolle at the musicale last night?

(Sweet Young Thing)—I didn't stay for the refreshments.

The land of the Sioux
Is open, 'tis trioux,
To the hardy white settler
Who loves all things nioux,
But what will he dioux
When the frolicsome Sioux
Sweeps down on him, scalps him
And chops him in tioux?

(Smith)—The principal reason that husbands and wives don't get along well is that we men are too darned good to them. We should treat them mean once in a while, embarrass them before others, and generally make them miserable, say about twice a week. If we did that they'd be so darned glad to get back into our good graces that we'd have no more trouble with them.

(Jones)—We know a man who tried that very thing. The jury granted his wife \$300 a week alimony.

GREENWICH VILLAGE ART

I drew concentric circles—
An over-ripe tomato—
A wedge or two and called the sketch—
"A lady reading Plato."

FROM THE CRADLE TO THE GRAVE

Milk.
Milk and bread.
Milk, bread, egg and spinach.
Oatmeal, bread and butter, green apples and all-day suckers.
Ice cream soda and hot dogs.
Minute steak, fried potatoes, coffee and apple pie.
Bouillon, roast duck, scalloped potatoes, creamed oyster plant, fruit salad, strawberry ice cream, demi-tasse.
Pate de foi gras, veau a la Blanquette, potatoes Parisienne, eggplant a l'Opera, salad chiffonade, peach plombiere, demi-tasse, Roquefort cheese.
Two soft-boiled eggs, toast and tea.
Crackers and milk.
Milk.

FUTURE EVENTS

THE ALAMEDA COUNTY DENTAL SOCIETY (District No. 4), a component of the California State and American Dental Associations, will hold its Second Guest Convention in the Municipal Auditorium, Oakland, Calif., October 2-3, 1930.

To all ethical practitioners of dentistry we extend GREETINGS. We will present two days of lectures and clinics. In 1928 we were able to register 800 guests. Bigger and better are our plans for 1930.

For details of lectures and clinics, watch for announcement in the Alameda County Bulletin.

W. H. ROBINSON, *General Chairman*,
404 American Bank Building,
Oakland, Calif.

THE KINGS COUNTY DENTAL SOCIETY will hold its first meeting of the 1930-1931 season on October 9, 1930, at 8:30 p. m., at the Building of the Medical Society of the County of Kings, 1313 Bedford Ave., Brooklyn, N. Y.

The essayists of the evening will be:

Adolph Berger, D.D.S., F.A.C.D., Professor of Oral Surgery, School of Dental and Oral Surgery, Columbia University.

Subject: *The Importance of Diagnostic and Surgical Judgment in the Treatment of Pathological Lesions About the Teeth, Face and Jaws to Avoid Complications.*

Paul R. Stillman, D.D.S., F.A.C.D., F.A.A.P., Ex-President, American Academy of Periodontology, Co-Author of *Text-Book of Clinical Periodontia*.

Subject: *The Problem of Functional Occlusion.*

Clyde H. Schuyler, D.D.S.

Subject: *Errors in General Practice, As Viewed by the Prosthodontist.*

After the meeting the following clinics will take place:

Orthodontia	H. Hoffman
Radiography	H. Werner
Exodontia	J. Wisoff
Oral Surgery	S. Sherman
Periodontia	F. Kaufman
Bridgework	J. Selverstone
Partial Dentures	J. R. Schwartz

J. L. FELSENFELD, *President*,

H. AUSUBEL,

Chairman Educational Committee,
1 DeKalb Ave., Brooklyn, N. Y.

THE EASTERN DENTAL SOCIETY OF THE CITY OF NEW YORK will hold its first meeting of the season at the Allied Dental Council Auditorium, 425 Lafayette St., New York, on October 9, 1930, at 7:45 p. m.

Francis Scott Weir will deliver an illustrated lecture on *Full Denture Technic*.

W. S. Heermans will lead a round table topic discussion preceding the lecture, and a series of chair demonstrations and table clinics will be given by the following clinicians:

Joseph Ader
Herbert Berger
Myron Bogdonoff
S. S. Eisner
Jos. Homer
Jos. S. Landa
I. A. Levitt
Robert H. Lieberthal
S. J. Scheckter
Max Schwartz
H. E. Tompkins

The committee has arranged a most unusual and interesting program for the coming year. The hospitality of the meetings is open to all, and it is the desire of the committee to welcome personally visitors who may come alone.

LOUIS I. ABELSON, *Chairman*
310 West 72nd St., New York, N. Y.

THE CANADIAN DENTAL ASSOCIATION will hold its Sixth Annual Fall Clinic, under the auspices of the Montreal Dental Club, October 16-18, 1930, at the Windsor Hotel, Montreal, Canada.

The clinicians who will be present and their subjects are as follows: Albert J. Irving, New York, *Cavity Preparation*; James A. Loughry, Cleveland, Ohio, *Reconstruction of the Mouth*; W. A. Grey, St. Paul, Minn., *Periodontia*; and Edwin N. Kent, Boston, Mass., *Economics*.

The registration fee, which will be quoted on request, will include tickets for luncheons on the 16th and 17th. As the attendance will be limited, those wishing to attend are urged to register with the Secretary, Dr. M. L. Donigan, 1396 St. Catherine St., West, Montreal, Canada, as early as possible.

The Exhibit Section will be very fine.

The Canadian Dental Association's Golf Tournament will be held on October 15, the day preceding the opening of the Fall Clinic. Entries should be made at the same time as registration for the Fall Clinic.

THE MASSACHUSETTS BOARD OF DENTAL EXAMINERS will hold an examination for registration for both dentists and oral hygienists in Boston, Mass., October 20-22, 1930.

Full information, application blanks, etc., may be secured from the office of the Secretary. All applications must be filed at the office of the Secretary at least ten days before date of examination.

W. HENRY GRANT, *Secretary*,
Room 146, State House, Boston, Mass.

THE SOCIETY FOR THE ADVANCEMENT OF GENERAL ANESTHESIA IN DENTISTRY will hold its regular meeting at the Buckingham Hotel, 57th Street and Sixth Avenue, New York, on Monday, October 20, 1930, at 7:00 p. m.

The following program will be given after the dinner:

Some Practical Aids to the Administration of Nitrous Oxid and Oxygen in Dental Practice, by Leonard Orens, M.D.

Interesting Points in the Relationship of Obstetrician and Dentist, by Joseph Nathanson, M.D.

LEONARD S. MORVAY, D.D.S., *Sec'y-Treas.*
76 Clinton Ave., Newark, N. J.

A Brooklyn Public Health Exposition is to be held during the week of October 20, 1930, in Brooklyn, a borough of the City of New York. The Exposition is to take place under the sanction and endorsement of the Medical Society of the County of Kings and the Second District Dental Society.

Shirley W. Wynne, M.D., Health Commissioner of the City of New York; Hon. Henry Hesterberg, Borough President; Luther F. Warren, M.D., President of the Medical Society of the County of Kings, and George Crawford Douglass, D.D.S., President of the Second District Dental Society, are Honorary Chairmen of the Exposition.

Headquarters for the show, which is to be held in the 23rd Regiment Armory, have been opened in the Brooklyn Chamber of Commerce Building, 66 Court Street.

In connection with the Exposition, President Hesterberg has issued a proclamation setting aside the week of the show as Public Health Week. There will be broadcast through one or more of the larger radio stations messages from the Health Commissioner, Commissioner of Sanitation and other speakers equally well known to the general public.

There are 4,500 physicians, 3,000 dentists and 2,750 retail druggists in Brooklyn. For these the Exposition will be open from 11 A. M. to 1 P. M.

daily, so that manufacturers may provide demonstrations not offered through the usual channels of merchandising. Factory experts and technicians will thus have an opportunity to meet the members of the professions.

THE REHWINKEL DENTAL SOCIETY will hold its annual fall session at the Masonic Temple, East Main Street, Chillicothe, Ohio, Thursday, October 23, 1930, and will present H. E. Friesell, D.D.S., Sc.D., LL.D., F.A.C.D., and a representative of the Eastman School of X-Rays and Dental Photography, together with some excellent clinics.

W. G. HAMM, *Secretary-Treasurer*,
19 South Paint Street,
Chillicothe, Ohio.

THE ALUMNI SOCIETY OF THE DEWEY SCHOOL OF ORTHODONTIA will hold its annual meeting at the Vanderbilt Hotel, New York, Monday, Tuesday and Wednesday, October 27-29, 1930. A cordial invitation is extended to all who are interested to attend this meeting.

H. K. COOPER, *President*,
626 Woolworth Building,
Lancaster, Pa.
OTTO J. SORENSON, *Secretary*,
17 Park Avenue,
New York, N. Y.

THE INDIANA STATE BOARD OF DENTAL EXAMINERS will meet at 8:00 a. m. on October 27, 1930, in the House of Representatives' Room, State House, Indianapolis, Ind., for the purpose of examining all applicants with proper credentials. Examinations will last probably through October 30th.

Applications should be in the hands of the Secretary one week before the date of meeting.

For applications, clinical requirements and other information, address

J. M. HALE, *Sec'y-Treas.*
Mt. Vernon, Ind.

EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE

Examination of candidates for commission as Assistant Dental Surgeon in the Regular Corps of the U. S. Public Health Service will be held at Washington, D. C., on November 10, 1930.

Candidates must be twenty-three years and not over thirty-two years of age. They must have been graduated in dentistry at a reputable dental college and have had a total of seven years' educational training and practical experience. They

must undergo a thorough physical examination and must satisfactorily pass oral, written and clinical tests before a board of officers.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

THE CONNECTICUT DENTAL COMMISSION will meet in Hartford, Conn., November 17-20, 1930, for the examination of applicants for license to practice dentistry and dental hygiene and to transact any other business proper to come before it.

Applications should be in the hands of the Recorder at least one week before the meeting. For application blanks and further information, apply to

ALMOND J. CUTTING, *Recorder*
Southington, Conn.

THE ILLINOIS DEPARTMENT OF REGISTRATION AND EDUCATION will conduct examinations for registration to practice dentistry in Illinois on the following dates:

November 18-21, 1930, at the University of Illinois College of Dentistry, 1838 West Harrison Street, Chicago, Ill.

THE SIXTH GREATER NEW YORK DECEMBER MEETING FOR BETTER DENTISTRY will be held at the Hotel Pennsylvania, New York, December 1-5, 1930.

The committee is preparing a program which will be both interesting and of high scientific value. Among the essayists will be Comm. H. E. Harvey, Norfolk, Va.; Stanley D. Tylman and F. Blaine Rhobotham, Chicago, Ill.; Frank Fox, Philadelphia, Pa.; M. S. Weaver, Cleveland, Ohio; W. J. Chartres, Des Moines, Iowa; W. H. Wright, Pittsburgh, Pa.; E. N. Kent and V. Kazanjian, Boston, Mass.

The meeting will be continued on the same plan as to fee as previous meetings; that is, one fee admits members to all lectures, clinics, etc.

A subscription blank and list of clinics will be ready for distribution by November first.

There will be a manufacturers' exhibit in the hotel during the meeting.

JOHN T. HANKS, *Chairman*
CHARLES M. McNEELY, *Vice-Chairman*

THE MINNESOTA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at the College of Dentistry, University of Minnesota, Minneapolis, Minn., on December

12, 1930. Applications should be in the office of the Secretary by December 1st.

W. H. SMITH, *Secretary*
2337 Central Ave., Minneapolis, Minn.

THE BOARD OF DENTAL EXAMINERS OF CALIFORNIA will hold an examination in San Francisco for applicants to obtain a license to practice dentistry in California, beginning December 13, 1930.

Credentials must be in the office of the Secretary of the Board at least twenty days prior to the date above. For detailed information, apply to

BERT BOYD, D.D.S., *Secretary*,
610 South Broadway,
Los Angeles, Calif.

THE CHICAGO DENTAL SOCIETY extends a cordial invitation to all members of the American Dental Association to attend its ANNUAL MEETING AND CLINIC to be held at the Stevens Hotel, Chicago, February 2-5, 1931.

Following is a list of the sections, together with the names and addresses of the various section chairmen. It is their very earnest desire to prepare a program which will meet with universal approval. To that end they solicit constructive criticisms and suggestions which will assist them in the selection of essayists and subjects to be presented and discussed. Other suggestions for the improvement of the meeting and the comfort of visitors should be directed to the Secretary.

Section I. Operative Dentistry.

Chairman: A. E. Schneider, 25 East Washington St.

Vice-Chairman: E. W. Swanson, 25 East Washington St.

Section II. Full Dentures.

Chairman: Robert R. Gillis, Hammond, Ind.

Vice-Chairman: J. M. Besser, 55 East Washington St.

Section III. Partial Dentures; Crown and Bridge.

Chairman: R. A. Jentzsch, 185 North Wabash Ave.

Vice-Chairman: O. W. Silberhorn, 180 North Michigan Ave.

Section IV. Oral Pathology.

Chairman: W. G. Skillen, 311 East Chicago Ave.

Vice-Chairman: Isaac Schour, 1838 West Harrison St.

Section V. Mouth Hygiene.

Chairman: Irwin G. Jirka, 3165 West Madison St.

Vice-Chairman: F. B. Rhobotham, 55 East Washington St.

Section VI. Orthodontia.

Chairman: F. B. Noyes, 30 North Michigan Ave.

Vice-Chairman: F. E. Haberer, 55 East Washington St.

Section VII. *Oral Surgery.*

Chairman: E. L. Dunn, 25 East Washington St.

Vice-Chairman: J. L. Meredith, 30 North Michigan Ave.

Section VIII. *Dental Economics.*

Chairman: John H. Cadmus, 185 North Wabash Ave.

Vice-Chairman: F. van Minden, 185 North Wabash Ave.

Stanley D. Tylman will again be the chairman of the Program Committee and will be assisted by Frank H. Vorhees, David W. Adams, Frank G. Conklin and M. M. Printz.

The extension of the meeting from a three to a four-day meeting will give visitors an opportunity to attend more lectures and clinics than in past years.

The large Exhibition Hall has again been reserved for manufacturers' and dealers' exhibits. All reservations should be directed to Dr. C. Davidson, Chairman Exhibit Committee, 185 North Wabash Ave., Chicago, Ill.

HARRIS W. McCLAIN, *President*
HOWARD C. MILLER, *Secretary*
55 East Washington Street

THE KINGS COUNTY DENTAL SOCIETY will hold its Second Mid-Year Meeting for Progressive Dentistry at the new St. George Hotel, Brooklyn, N. Y., February 25-28, 1931.

Elaborate educational sessions have been arranged for operative clinics, table demonstrations, lectures, topic discussions, etc. Other features are exhibits by manufacturers, dealers and laboratories; health demonstrations by the New York Department of Health and the New York Tuberculosis Association, and an art exhibit.

Admission will be by registration. There will be a banquet on Saturday, February 28th.

Watch these columns for further details.

JOSEPH NEMSER, *Chairman, Publicity Committee*,
62 Hanson Place, Brooklyn, N. Y.

THE VIRGINIA STATE DENTAL ASSOCIATION will hold its next meeting at the Chamberlin-Vanderbilt Hotel, Old Point Comfort, Virginia, May 11-13, 1931.

A. M. WASH, *Sec'y-Treas.*,
504 Medical Arts Building,
Richmond, Va.

THE DENTAL SOCIETY OF THE STATE OF NEW YORK will hold its Sixty-third Annual Meeting at Hotel Pennsylvania, New York, May 12-15, 1931.

A cordial invitation is extended to all dentists, members of the American Dental Association and to all ethical Canadian dentists.

John T. Hanks, 17 Park Avenue, New York, is Chairman of the Exhibits Committee. Address Dr. Hanks for information relative to space and terms.

Fred R. Adams, 8 West 40th St., New York, is Chairman of the Clinic Committee. Under his direction a new plan will be presented in the presentation of the Educational Clinics. Dr. Adams will be pleased to hear from ethical dentists willing to present clinics of merit.

For general information, address the Secretary.

ALFRED WALKER, *President*,
100 West 59th St., New York, N. Y.
A. P. BURKHART, *Secretary*,
57 East Genesee St., Auburn, N. Y.

THE SECOND INTERNATIONAL ORTHODONTIC CONGRESS will be held at the Hotel Great Central, London, England, July 20-24, 1931.

A full and interesting program of papers and demonstrations is anticipated, and a museum is being organized. Suitable entertainment for ladies accompanying members will be arranged. Intending contributors to the activities of the Congress can obtain from the secretaries of their respective orthodontic or dental societies the conditions under which contributions are invited. The Secretary-General (A. C. Lockett, 75 Grosvenor Street, London, W.1) also will be happy to give information on request.

Information regarding traveling facilities and hotel accommodations may be obtained from the official agents to the Congress, Messrs. Morgan Pope & Co., of 7 St. James's Street, London, S.W.1; 6 Rue Caumartin, Paris; 71 Vanderbilt Avenue, New York; and Messrs. Noel Vester & Co. (Agents), 44 Unter den Linden, Berlin.

J. H. BABCOCK, *President-General*,
G. NORTHCROFT, *Vice-President General*,
E. D. BARROWS, *Treasurer-General*,
A. C. LOCKETT, } *Secretaries-General*.
B. M. STEPHENS, }



